THE LANCET.

Vol. II.] LONDON, SATURDAY, AUGUST 1, 1840. [1839-40.

LECTURES BY M. DE BLAINVILLE ON COMPARATIVE OSTEOLOGY.

THE

COMPARATIVE OSTEOGRAPHY

OF THE

SKELETON AND DENTAR SYSTEM

IN THE FIVE CLASSES OF

VERTEBRAL ANIMALS,

RECENT AND FOSSIL.

BY M. H. M. DUCROTAY DE BLAINVILLE,

Member of the Institute of France.

WITH GRAPHIC DELINEATIONS BY M. WERNER;

EDITED (FROM THE FRENCH) AND

ADDITIONALLY ILLUSTRATED

WITH NUMEROUS NOTES, OBSERVATIONS,

AND DRAWINGS,

BY ROBERT KNOX, M.D.,

Edinburgh; Corresponding Member of the French Academy of Medicine, &c. &c.

Recapitulation.

Thus, from a detailed comparison of all the parts of the head of the Aye-Aye with that of Rodents, it results—

First, That every point connected with the organs of intellect, as, the great development of the brain and of its different parts, the situation of the occipital foramen, the proportion of its diameter with that of the foramina for the passage of the cerebral nerves, the arrangement of these foramina all unite to remove the Aye-Aye from the order Rodentia, and to place it with the Makis.

Secondly, The same result follows from the consideration of the organs of sense.

Thus, in the organ of hearing, there is the non-separation of the cavity of the tympanum, and especially of the *pars petrosa*, the size of the internal auditory canal, that also of the external, the non-existence of an osseous external auditory canal, and even the form of the ossicula auditûs.

In respect to the organ of sight, the size and direction of the orbit, the completion and composition of its margin, into which the upper maxillary bone does not enter, the arrangement of the lacrymal bone and the orifice of its canal external to the orbit.

In the apparatus of smell, we have the proportional smallness of the nasal cavities, the great complexity of the superior turbinated bones, and of the ethmoid generally, and the simplicity and smallness of the inferior turbinated bones, the capacity of the frontal and sphenoidal sinuses, the extent of the vomer, and the almost complete osseous separation of the two nasal cavities; lastly, the smallness of the nasal bones.

The smallness of the palate in general, and of the anterior and posterior palatine bones, make the Aye-Aye a Maki, and not a Rodent; whilst, on the other hand, there are indications of an approach to the Rodentia in the organ of mastication:—

1. In respect to the intermaxillary bones, supposing them really to be present, they are very large, and articulate extensively with the nasal and frontal bones, as in all the Rodents; but, on the other hand, it must be observed that this character ought not to be considered as an important one, as it exists in certain Carnivora, the Hyena and the Bear for instance, also in the Elephant, Lamantine, and even in the Tarsier.

2. In respect to the circumstance that the incisive (?) teeth, two in number only, in each jaw, are very strong and thick, sharp on their free margin, and implanted deeply, the upper ones even into the superior maxillary bones, as takes place in the Rodents.

3. There exists an analogy in the absence of canine and false molar teeth, together with the large unoccupied space, forming a bar between the incisives and molars. We ought, however, to remark here, that it may be supposed, with great probability, that at an early age there existed some intermediate teeth.

4. Lastly, in respect to the smallness and flatness of the crowns of the molar teeth, remembering, however, that this may depend upon use, and that very probably they originally had four tubercles, as in the Loris.

But we have found in the little that we

know of the skeleton, a confirmation of the conclusion drawn, from a consideration of the organs of intelligence and of sense, from the form of the proximal end of the radius, from the existence of four bones in the first row of the carpus, and of the *intermediate* (ninth) bone so characteristic of the Quadrumana; to which we may *now* add the elongated form of the calcaneum and scaphoid as in the Tarsier.

We arrive at the same conclusions in respect to the habits and country of the Aye-Aye, viz., Madagascar, the almost exclusive residence of the Makis, so that it appears to me that we have, unquestionably, a right to conclude that the Aye-Aye belongs to the first order of mammals, by its organs of intelligence, of sense, and those of locomotion, that is to say, by all those which constitute animal life, and it appears to be removed only slightly from that order in regard to the teeth.

But supposing that the teeth resembled exactly those of the Rodents, still it would be necessary to conclude that the Aye-Aye held a middle place, or was connected to both these and to the Quadrumana; and as we must, in conclusion, arrange it in some situation, there remains only the difficulty to solve in which group it must ultimately be placed: now by a reference to certain principles, the solution of this question will not prove difficult.

If, in the methodical arrangement of mammals into secondary groups, it is deemed necessary to take into consideration the organs of nutrition, and along with these the dentar system, it is probable, always supposing that the Aye-Aye bears a certain resemblance to the Rodents, that the Aye-Aye might come to be placed amongst them, that is to say, amongst the Mammalia, having only two sorts of teeth, molar and incisives. In this case, however, we continue to proceed on the hypothesis that the teeth of the Aye-Aye actually resemble those of the Rodents; but it is evident that here the naturalist would follow an arrangement altogether systematic, altogether artificial, by keeping in view a single organ only, and setting aside all other real natural relations; but even in this case it would be necessary to place the Aye-Aye at the head of the Rodents, and that order must necessarily be preceded by the Quadrumana, which was the arrangement adopted by Lacepede, but not that followed by Storr; for I must observe, in passing, that by this arrangement of classing the Mammalia by their teeth, there is a discrepancy in placing man and the Quadrumana at their head, that is to say, in regarding their intellectual functions. In a complete system based on the dentar apparatus, and, consequently, on the food of animals, it is necessary to place at the head an animal entirely carnivorous or entirely herbivorous, and to arrange as intermediate the omnivora; then the Carnivora, holding the first place in respect to mastication, would be followed by the Quadrumana as intermediate: then would succeed, in the third degree, the Rodents, and the Aye-Aye would take its place suitably at the head of these. But in all this there is an absurdity in the placing of man before the Simiæ, but after the Barnivora; since, in fact, they precede these, merely by the superiority of their organs of intelligence, or, perhaps, rather by the greater development of their cephalic nervous system. It is easy to see that it would be much better to group the Mammalia conformably to this system itself.

Now, agreeable to this view, the Aye-Aye ought to be arranged amongst the Quadrumana. It remains, then, to determine to what system of organs we must give the preference; and it is easy to see that the nervous system ought to be preferred to all others, since it really constitutes the animal, and that in proportion as it is developed, the more nearly does it approach that animal placed at the head of the whole series,—man himself; and, in fact, it is the consideration of the arrangement of this system, and of the proportions of its different parts, which does least violence to a natural method. We may thus, also, avoid anomalies, but it is not so with the method derived from a consideration of the dentar system as the principal; in fact, we know very well that many carnivora arranged amongst the mammals with three kinds of teeth, have, notwithstanding, only two, as in several Bats, and some species of the Amphibia or Seals.* And if the classification, which is based on the nervous system and organs of sense, does not present us with those striking divisions (in appearance at least, and, consequently, more artificial still), we may say boldly, it is the more natural and more philosophic; for the more we advance in our knowledge of animals, the more we become convinced of the truth of that axiom of Linnæus, *natura non facit saltum*.

* As M. De Blainville in his text has used the term amphibia, as applied to the seal, we take the liberty of reminding the young scientific zoologists that the illustrious author is perfectly aware, perhaps more so than any person living, that seals are not amphibious animals; he was, indeed, the first himself to point out the true amphibia, and to classify them apart from reptiles. I have, no doubt, therefore, that M. De Blainville's anxiety to return as far as possible to the Linnæan language, even where that language was manifestly incorrect, must have been forced upon him by the almost universal efforts of a host of compilers and book-makers, as well in France as here in Britain, to substitute the works of M. Cuvier for Nature, and to declare the Regne animal of that anatomist and naturalist the *ne plus ultra* of human intelligence.—*R. K.*

I am fully aware of the force of the objection to which the consideration of the nervous system is exposed, viz., that, unlike the dentar system, it is entirely anatomical; but to this I reply, that the first quality of a sound zoological system is not the facility of its application, but that which best admits of the application of the analogical and inductive method, enabling us to group animals by the greatest number of their natural relations. There are two sorts of methods; one for elementary instruction, and the other for the perfecting of science; to which we may add, that the arrangement of the nervous system, which is in no way indicated by the apparatus of mastication, although it be but a part of the locomotive and sensorial apparatus annexed to the digestive, is, on the contrary, perfectly indicated by the head, and even by the arrangement of the cavities for the senses, and especially of the cavity for the brain, and amongst the bones supporting it by the sphenoid and its appendages.

This opinion, at least, will be maintained in, I believe, an indisputable manner in a memoir, in which I propose to consider the head, or rather, the cranium, properly so called, as not being composed of a single vertebra, as appears to have been the opinion of Messrs. Oken* and Dumeril, the latter viewing it only as connected with motion, but of as many vertebræ as there are particular nervous ganglions or systems in the encephalon. At this stage of our work, it is sufficient to state that, in respect to all its animal functions, the Aye-Aye has no relation with the Rodents, but strongly approaches the last of the Quadrumana; and that those characters, which were drawn from the organs of animal life, must be esteemed, in the classification of animals, as much more important than the organs of digestion; and thus we conclude, that the Cheiromys, which might more suitably be called the Myspithecus, ought to be arranged amongst mammalia of the first degree of organisation, forming, if desired, a small family apart, although it will be always very difficult to separate it from the Tarsiers.

It now remains for us to prove that this mode of viewing the subject had been already adopted by a great number of zoologists, who had been accused, it were difficult to say why, of being systematic, that is to say, of not following the natural arrangement.

VII.—*History of the Place assigned to the Aye-Aye by Zoologists.*

Sonnerat is the only observer who has spoken of this animal from a living specimen, in his "Voyage aux Indes Orientales," tom. ii., p. 137; he obtained at Madagascar two specimens, a male and female, which lived with him for two months. From him we learn all that we know of their manners and habits; but Sonnerat never made the slightest allusion to their natural relations with other known animals.

Buffon, tom. xiv. of his "Supplement," published by Lacepede in 1789, gave a detailed description of the stuffed skin of the female specimen brought home by Sonnerat, and that at the end of a description of several species of true Squirrels; which trivial circumstance may, perhaps, have induced some to imagine that he considered it as a Squirrel, and thus induced zoologists to arrange it with them. Nevertheless, Buffon, who compares with great care the teeth, but very erroneously the head, with that of Squirrels, says expressly, at the end of the article, that it is with the Tarsiers that the Aye-Aye has most relations, by the flatness of its great toes, the long and tufted tail, straight ears, naked and transparent woolly character of the hair, and length of fingers.

We ought not, therefore, to be surprised, that Gmelin, who first edited the "Systema Naturæ," after the death of Linnæus, and, following the rigorous systematic method of this great master, has placed the Aye-Aye amongst the Glires or Rodents, seeing that this animal has no canine teeth, and only two incisives in each jaw; and that he, moreover, arranged it in the genus Sciurus (*Squirrel*), on account of its long tufted tail. Nevertheless, it ought to be remarked, that, with his usual modest and praiseworthy custom (by which his successors have often profited, notwithstanding their libel upon him in the epithet of *compiler*), Gmelin added, in his observations, *Dubii generis, gressu moribusque Bradypodi affinis, dentibus, caudâ, pedibus pentadactylis sciuro proprior.*

Shreber, although following Linnæus, was more happy or better informed; in fact, he placed the Aye-Aye, without hesitation, in the genus Lemur, with the suitable name of Lemur Psilodactylus; but without assigning any reasons, and, in fact, the Aye-Aye wanted the characters which he ascribed to the genus.

The Aye-Aye seems for a long time to have excited little attention, so much so, that, in 1795, Messrs. Cuvier and Geoffroy, in their exposition of a mammalogical method, inserted in the "Magazin Encyclopedique," took no notice of it; but shortly afterwards M. Geoffroy returned to the animal in a memoir, *ad hoc*, published in the No. 28 of the "Decade Philosophique," and readily showed that the Aye-Aye could never be allowed to remain amongst the Squirrels, where Gmelin had placed it, and that it ought to form a distinct genus, which he proposed to name Daubentonia; but he had not, or, at all events, he did not show any suspicion re-

* This was a mistake. The celebrated programme of M. Oken was entirely unknown to me when I composed this memoir. I only heard it spoken of very vaguely, almost jestingly, to M. Cuvier.—(Oct. 1839.)

specting its place in the series of Mammals, and he considered it as belonging to the order Rodentia, precisely as Gmelin had done. Nevertheless, M. Geoffroy observed, that by the number of its fingers and toes, and by the form of the great toe, it was entitled to be considered as a genus approaching the Didelphis Opossum, if it were not for the form of its head and teeth; to which he adds, that the Loris, the Jerboas, resemble the Squirrel more than the Aye-Aye, at least, if the whole of the characters be taken into consideration; whilst, on the contrary, the Aye-Aye has but a few insulated points connecting it with the Rodents. M. Cuvier admits, in fact, this mode of viewing the subject since he left it in this order, but observes, that it ought to be separated from the Squirrels, and that, on account of its opposable great toe, it holds the same relation, to the Rodents which the Pedimanes, or Sarigues (Marsupialia), hold to the Carnivora. In his "Leçons d'Anatomie," published in 1800, he substituted the word Cheiromys, or Rat with hands, for that of Daubentonia, placing it always after the Squirrels.

All the zoologists who, since that time, have published in France abridgments or manuals of natural history or of zoology, as MM. Desmarest, Dumeril, &c., adopt the principles of classification of the Mammalia of Storr, modified by Messrs. Geoffroy and Cuvier, that is to say, give a preference to the dentar system exclusively, and have, consequently, continued to place the Aye-Aye amongst the Rodents. M. Desmarest places it, indeed, a little out of the line, viz., with the Phascolomes and the Kangaroos.

But it was not so with those zoologists who viewed the organs of locomotion as of primary importance, and thus approached the truth; M. De Lacepede, for instance, in his classification of Mammals, proposed in 1798, made of it (the Aye-Aye) a distinct genus, which he placed in a subdivision of the Mammalia, Pedimanes; but instead of putting it at the head of this subdivision, which, at least, would have made it follow the Galagos, he arranged it at the end, in the order which is characterised by the presence of incisive and molar teeth only, and therefore with the Kangaroos.

Foreign zoologists (British) have been in general happier in their arrangements: Shaw, for instance, completely followed Shreber, placing the Aye-Aye in the genus Lemur, under the name of Psilodactylus, and, like Shreber, without observing that the animal had really none of the characters which characterised the genus.

Finally, Illiger, in 1811, following Lacepede in adopting, as a character of the second order of Mammals, an opposable thumb, or great toe, became thus compelled (*against his will*) to put the animal in its true place; but he did so much more completely than the French zoologist, seeing that he formed a particular family of it under the name of Leptodactyles, placed by him following the Macrotarsier and before the Marsupialia.

Fischer, of Woldheim, in his "Tableau de Geographie," published in 1813, has imitated Illiger.

Thus we see by this historical sketch, that several authors have, as it were, almost incautiously been induced to place the Aye-Aye as we have proposed; and supposing that zoologists should henceforward find reason to adopt my opinion, it may be concluded that the dentar system viewed too rigorously is not adapted to establish a mammalogical arrangement, since it may disturb evident natural relations, even without admitting that the dentar system of the Aye-Aye be not sufficiently known, which is far from being improbable.

Such was my memoir when communicated on the 16th of May, 1816, to the Philomatic Society, that is, more than twenty years ago; and since then I have had nothing, or scarcely any thing, to add to it, with the exception of what I have said in the descriptive part of the tarsal bones. Thus, already, a certain number of zoologists have withdrawn the animal from the order Rodentia, to arrange it with the Makis. Yet M. George Cuvier, although he knew the peculiarity so characteristic in the bones of the carpus and tarsus, persists in placing the Aye-Aye with, and in the *midst* of, the order Rodentia, as a division of the genus Squirrel, between the Polatouches and Porcupines, without any remark, in his first edition of the "Regne Animal," 1817; between the Squirrels and the Marmots, in the second edition of the same work, published in 1829; observing only "that the head of the Aye-Aye is very different from that of the other Rodents, and has more than one relation with the Quadrumana;" which he might have said, with far more reason, of the carpus and metacarpus, and tarsus and metatarsus, and of every thing that was really known of the animal.

M. Oken, who undoubtedly knew nothing of my memoir since his "Manual of Zoology" appeared in Germany, in 1816, pretty nearly followed Illiger, placing the Aye-Aye between the Galeopitheci and the Galagos, separating them from the Galagos, for some reason not very evident, by the genus Kinkajou.

But in France in the same year (1816), M. Desmarest, in the second edition of the "Nouveau Dictionnaire d'Histoire Naturelle," and M. Frederick Cuvier, in the Supplement to the third volume of the "Dictionnaire des Sciences Naturelles," returned to the opinion of Shreber, but following the arguments given in my memoir; and what is most singular, is, that M. Frederick Cuvier thus corrected what his

brother had inserted in the body of the same volume of the same work!!!

Nevertheless foreign zoologists, who do nothing but abridge, or extend the "Regne Animal" of Cuvier, copied him in this respect, as in all others. M. Goldfuss, for example, in his "Manual of Zoology," published in 1820, did so, and M. l'Abbé Ranzani, in his "Elements of Zoology;" but the latter remarked that there was a difference of opinion respecting the Aye-Aye, of which Goldfuss took no notice.

I find that M. Frederick Cuvier, who, in his work on the dentar system of the Mammalia, had returned to the opinion of his brother on the subject of the Cheiromys, which may be understood to a certain point, since he treated simply and rigorously of the teeth, still persisted in maintaining the same opinion, in the article, Zoology, of the "Dictionnaire des Sciences Naturelles," in 1829. But whilst he placed the Aye-Aye at the head of the Rodents, he added, that he might as well have placed it at the end of the Lemurs; and all this is really very singular, when we reflect on the moral rectitude which distinguished M. Frederick Cuvier.*

Wagler in 1830, and Duvernoy in 1834, in their "Systeme de Classification des Mammiferes," have both, without any critical observation whatever, placed the Aye-Aye amongst the Rodents; Wagler, between the Capromys and the Pteromys; Duvernoy placed it at the commencement of the order, in imitation of M. Frederick Cuvier.

Finally, and in spite of these changes, which after all may be beneath notice, M. Desmarest, in his "Traité de Mammalogie," in the "Encyclopedie Methodique," 1820; M. Lesson, in his "Manuel de Mammalogie," 1827; M. Geoffroy, in his last course; and especially M. Isidore Geoffroy, in his course of lectures delivered in the Museum in 1835, have finally recognised the Aye-Aye to be a true Maki, nearer the Tarsier than to any other genus of the family, and which in no shape makes the passage to the Rodents when these Rodents are suitably defined.

M. Ogilby himself, who, in his memoir on the opposable thumb as a zoological character in Mammals, published in the form of an extract from the "Proceedings" of the Zoological Society, March, 1836, had endeavoured to show that the Aye-Aye ought to form a distinct group, which he named Gliridæ, intermediate to the Sapajous and Didelphis, or Opossum, insisting particularly on the numerous relations which he discovered the Aye-Aye to have, in our opinion erroneously, with those Didelphides with an opposable great toe; has ended by adopting our mode of viewing the subject, in a note added at p. 17 of his memoir, published in the "London Magazine of Natural History," vol. i., N.S., p. 449, August, 1837, where he admits, in fact, that although he had not seen the animal any more than when he first wrote his memoir, yet, after all, he is induced to think that the Aye-Aye belongs to the Lemurs, having the same habits and the same country.

* I shall, in a subsequent part of the work, undertake to show that the moral rectitude of M. Frederick Cuvier was not sufficiently liberal in character to permit him to do justice to those who had corrected the anatomical errors of his distinguished brother.—*R. K.*

COURSE OF LECTURES
ON THE
PHYSIOLOGY AND PATHOLOGY OF THE BLOOD,
AND
THE OTHER ANIMAL FLUIDS,
DELIVERED IN THE SESSION OF 1839-40,
AT THE
School of Anatomy adjoining St. George's Hospital.

By HENRY ANCELL, Esq., Surgeon.

Lecture XIX.

Pathology of the blood.—General observations: the functions of the blood as well as its structure to be attended to; specific gravity of morbid blood and serum. Hydrohæmia, or poverty of blood; history, symptoms, sequelæ, post-mortem appearances, treatment; proportion of serum to clot in morbid blood; opinions of Sydenham. Hematitis or inflammation of the blood. The buffy coat; its mode of formation, chemical composition, varieties; circumstances by which it is influenced; complications of diseased states of blood.

Gentlemen:—Our inquiries hitherto have related more especially to the *physiology* of the blood; we must now proceed to its *pathology*. I shall commence with a quotation from the lectures delivered by Dr. Wilson in this theatre and in St. George's Hospital.

Dr. Wilson remarks, "you must consider blood not only in mass in its own large vessels, but in *extreme texture* all over the body, and thus you arrive at morbid 'structure' in detail. How much of all altered structure may be, and is explained, by the principles and habits of the blood? By its serum, its fibrin, its coagulability. I cannot do you a greater kindness than by impressing this grand truth, this great principle of *blood* upon you. Not a few ounces of it in a porringer, receding every instant from life; but of blood in its entire mass, communicating with the universal air at every instant in the lungs, with all structure in the

body and lungs, elaborated by both, at every instant, by the influences of both."

"The excellence of the blood in pathology is, that it is not only a material varying so much in the proportion of its principles, but a continuous, moving, changing material; one with a function,—that of self-coagulation: it explains *action* as well as *deposit*. How important, then, its states in pathology."

"In the single channels of the heart, its own self-coagulation, essential and necessary as the faculty is, may prevent the continuity of its current, as in the deposits on the valves, in polypi so called, &c. &c."

"On the circulation of the blood as a fluid through the chest (i.e. heart and lungs), life at every instant depends, and yet this blood is not blood unless it has the power and the tendency at every instant to become solid." Again, "the live blood and the breath together, must have the power of forming a deadly poison—carbonic acid, or it and all else perishes. What wonderful, what dangerous powers it possesses; powers fatal to it as a mechanical and chemical agent!"

"I would impress the great principles of pathology, by proving to you that diseased structure is a result, a symptom of diseased action, and that the first sensible material of that diseased action is the blood, in nearly all cases; yet I am not a teacher, nor are you disciples of 'humoral pathology,' for we do not admit the distinction of solids and fluids, in the extreme textures of the body, where all action begins: the blood is as much solid as fluid; all the solidity of the body comes out of the blood. We consider the blood living and entire in all its anatomical relations of living structure; it is a universal agent, one on which, in physiology, all healthy function is allowed to depend; and yet in our theories of disordered function, we refuse the universality and simplicity of its agency. The blood may fairly be considered as a current arising from the two external sources of air and food, flowing from them; a stream thus communicating at its *origin* with the external world, and nourished by it; with every part and particle of every structure at its *termination*. Both at one extremity and the other, by air and food, and in the extreme textures of the body, the blood is always undergoing change, and yet it alone in pathology has been regarded as unchangeable; and why? because the gross analysis of the receiver and the crucible, does not furnish us with any important sensible difference in its properties; yet even to our senses the difference in the properties of the blood is often perceptible, as where it is loaded with bile, in the great experiment afforded us by jaundice; in the numerous educts afforded us by glandular secretion in its varieties."

"How strangely has the blood been overlooked in disease, as illustrating its varieties and symptoms; like its other properties, the tendency to coagulate without actual coagulation is, no doubt, modified, if not suspended, by the impressions constituting disease; blood that would not coagulate is quite as unfit for the life of the organs as blood that has coagulated; all its peculiar properties are the result of its circulation, involving its peculiar changes, among them its great properties of coagulating under certain circumstances, resisting it under others; blood involves not only *material* but *action* as an agent of disease; it is an organ with a function. We must not be content with its analysis as varying from that of health, but examine its range of coagulability, the circumstances of its coagulation, &c. &c.: we must attend to its *function*, therefore, as well as to its *structure* or composition; whether the relation of the blood with its structure be interrupted by a prejudice to the blood from without (in its communication that is with external matter), or by an irregularity or suspension of the function of the structure within; from whichever source the mischief arises, still, if the blood be not altered, and constantly altered, in its circulation through the several structures, it coagulates in its vessels, or what is equally opposed to its nature, as necessary for life, it remains fluid, without the power of coagulating. The coagulation of the blood in the heart and vessels is, I believe, often, very often, the immediate cause of death; the last, it may be, sometimes, of a long train of circumstances constituting a fatal disease; sometimes it may occur as an earlier incident, but whether early or late, a direct cause of death, of interruption to the heart's action, of suspension of all function. The blood is in constant communication with external matter, and in this way from without, as from the suspension of the changes within, it does, I believe, occasionally receive influences obliging it to coagulate; death is the consequence. In the same way, though its fluidity may be maintained, its principle of self-coagulation may be destroyed by direct influences from without, by interruption of functional change, of growth and secretion within, and death, here, as in the former case, is the consequence."

"Blood coagulates out of the body, but the living blood, as forming part of a living, all-pervading mass, in the living body, is capable of many more changes, of much more self-arrangement of its particles, is much more independent, than the blood in a porringer. It may at *once, in an instant*, be brought into a state which will not admit of the influences of the air, and thus every structure and part of it would perish in an instant, for there must be a recipient state of blood, as well as an essential state of the air, to produce the functions of life; the

air is electrical, so is the blood, and they are constantly interchanging principles. If blood then be in electrical relations (proved by direct experiment of lightning, and experiments on the colour and coagulation of the blood), then it follows that it may exist in different degrees of electrical relations, and, of course, may express those degrees by symptoms, which, in fact, make up diseases,—'nervous symptoms.' If its coagulable property varies, there is no difficulty in comprehending that there may be symptoms of such variety of its coagulable quality, in all degrees, ranging between inconvenience and death; in the systems (of physic) these symptoms are not yet *matched* with such states and varieties of the blood; it is likely that the symptoms of languor, hysteria, the 'nervous' symptoms in all their variety, will find their best explanation in such states of the blood. 'Emotion,' also, as remarked by the old writers, food, physic, wine, spirits, ether, ammonia, opium, the 'nervous medicines,' also, probably acting in this way; nothing is more sensitive than the blood, more capable of universal agencies."

"The state of the atmosphere, as indicated by the barometer, may influence the blood in its rate of coagulation, of course then inducing symptoms. As rainy, murky, misty days in asthma, and affecting the 'spirits;' and these effects—how different in different persons. How rational is this, as compared with the explanation of such agencies on the 'nerves' and 'nervous system.' The nerves do, in truth, allow of very various expressions of these agencies in degree and kind; but they begin with the blood, and are simultaneous and universal through the system by the blood. Apoplexy, palsy, &c., in all their varieties of degree and kind, depend on the blood, even as general diseases. Partial apoplexy or palsy, as inability to move a particular limb, possibly depending on the same cause, as on coagulation of the blood in its vessels, arteries, or veins. Yet in the present systems this is never hinted at. The coagulation of the blood is influenced, in short, by all the great principles of nature, with which, through air and food, it communicates. You cannot separate the blood from its power of self-coagulating; and blood is influenced by (*e. g.*) green tea, coffee, wine, weather, climate, heat, cold, electricity, light, darkness, air, salt, 'nervous poisons,' emotion, fright, fatigue, physic, &c. &c., *ad infinitum*. How immediately PRACTICAL then do these considerations become. How strange they should not be insisted upon, yet hitherto how continually have they been overlooked. Take the principle of blood, primary by quantity and quality, in the explanation of symptoms, and cases are explained by scores, general and local in their symptoms, that are inexplicable by the 'nervous system' and nerves, from which nothing can originate as independent of the blood, and the structures to which they are appended. Many nervous fevers are states of the blood, expressed, it may be, by the nerves. States of the blood, that is, affecting structure and recognisable by it."

These observations and reflections, at the same time that they embrace the most important pathological truths, indicate the difficulty of the subject before us. To know the history of the human blood in full, would be to know the most hidden secrets of our nature; those which are probably far removed from all human comprehension. But this does not justify an indolent abandonment of the search after truth. As regards the pathology of the blood, all at present is little else than chaos; it has been placed either above or beneath consideration, by the great majority of modern medical philosophers. I have, nevertheless, introduced incidentally, in former lectures, some of the facts which relate to it, and have spoken more particularly of that which concerns quantity, when treating of anæmia and hyperæmia. I shall now use my best endeavours to give a just evaluation to the remaining facts, and to place them before you as methodically as possible.

Specific Gravity of Morbid Blood.—You are well assured, that the density of the blood in its healthy state varies only with its composition, being a measure thereof. In order to form correct conclusions respecting its specific gravity when morbid, it is absolutely necessary to know its ranges of variation, in different physiological states bordering upon disease. M. Denis has investigated this point with great diligence, and, as it appears to me, with great success; I therefore place some of the results of his numerous analyses before you.

1. In children, from a few days to ten or twelve years old; in very aged people; in weakly subjects, living in dark, moist, badly-ventilated situations; in lymphatic constitutions, and pale, delicate individuals of either sex, living on innutritious vegetable diet; many of whom, although purporting to be in health, are frequently on the brink of disease; also in phthisical and chlorotic patients, and those who have been frequently bled, and kept on low diet, the range of density is, From 1.045 to 1.049.

2. Adults, male and female, in the most perfect health, of ordinary physical force, and good constitution, living moderately on good diet, and in good air. The blood of such persons has a mean density between that of the debilitated and that furnished by the excessively robust.

From 1.050 to 1.059.

3. Very vigorous subjects, having great physical power, for the most part a sanguine temperament, and athletic frame, being frequently full livers, both as respects animal

Table XXIV.

Post-mortem Composition of Healthy Venous Blood of every Degree of Density, inferred from numerous Analyses by M. Denis, and Drawn up from his Published Tables.

Specific Gravity.	Water.	Albumen.	Fibrin.	Soda.	Sulphate of Potass.	Sulphate of Soda	Phosphate of Soda.	Chloride of Sodium.	Phosphate of Lime.	Lime, and traces of Magnesia.	Acid Oleic. — Margaric. — Vol. Fatty.	Seroline.	Cerebrine. Cholesterine.	Yellow Bil. subs. Blue Substance.	Hematosine.	Oxide of Iron.	Nuclei of Corpuscles.	Total.
1.04	842.106	72.520	2.337	0.936	0.748	0.748	0.374	3.742	0.281	0.187	2.339	1.102	5.511	2.742	1.158	0.128	63.041	=1000
1.046	838.751	72.227	2.324	0.932	0.746	0.746	0.373	3.728	0.280	0.187	2.330	1.099	5.495	2.728	1.224	0.136	66.694	,,
1.047	835.403	71.936	2.311	0.928	0.743	0.743	0.371	3.713	0.278	0.184	2.321	1.094	5.471	2.716	1.291	0.143	70.340	,,
1.048	832.051	71.666	2.298	0.925	0.740	0.740	0.370	3.698	0.277	0.185	2.311	1 091	5.456	2.694	1.358	0.150	73.980	,,
1.049	828.726	71.379	2.285	0.921	0.737	0.737	0.368	3.683	0.276	0.184	2.302	1.087	5.438	2.683	1.424	0.154	77.612	,,
1.050	825.397	71.095	2.272	0.917	0.734	0.734	0.367	3.668	0.275	0.184	2.293	1.084	5.420	2.668	1.491	0.165	81.236	,,
1.051	822.073	70.815	2.258	0.913	0.731	0.731	0.365	3.654	0.274	0.183	2.284	1.080	5.401	2.654	1.557	0.173	84.854	,,
1.052	818.758	70.532	2.245	0 910	0.728	0.728	0.364	3.638	0.273	0.183	2.274	1.076	5.383	2.639	1.624	0.180	88.465	,,
1.053	815.448	70.253	2.232	0.906	0.725	0.725	0.362	3.624	0.272	0.181	2.265	1 072	5.364	2.624	1.691	0.187	92.069	,,
1.054	812.144	69.970	2.218	0.902	0.722	0.722	0.361	3.610	0.271	0.181	2.256	1.069	5.346	2.610	1.757	0.195	95.666	,,
1.055	808.847	69.588	2.205	0 899	0.719	0.719	0.360	3.595	0.270	0.180	2.247	1.066	5.329	2.595	1.822	0.202	99 257	,,
1.056	805.556	69.472	2.192	0.895	0.716	0.716	0.358	3.580	0.269	0.179	2.238	1.058	5.283	2.580	1.889	0.209	102.840	,,
1.057	802.271	69.152	2.179	0.891	0 713	0.713	0.357	3.566	0.757	0.179	2.230	1.055	5.276	2.544	1.953	0.217	106.418	,,
1.058	798.992	68.859	2.166	0.888	0.710	0.710	0.355	3.551	0.266	0.178	2.218	1.054	5.270	2.251	2.020	0.224	109.987	,,
1.059	795.719	68.578	2.153	0 884	0.707	0.707	0.354	3.537	0.265	0.177	2 210	1.050	5.254	2.537	2.085	0.231	113.552	,,
1.060	792.453	68.302	2.140	0.881	0.704	0.704	0.352	3.522	0.264	0.176	2.221	1.049	5 253	2.522	2.150	0.238	117.109	,,
1.061	789.193	67.923	2.127	0.877	0.701	0.701	0.351	3.508	0.263	0.176	2.192	1.047	5.200	2.522	2.216	0.246	120.657	,,
1.062	785.939	67.746	2.115	0.873	0.699	0.099	0.349	3.493	0.262	0.175	2 183	1.049	5.191	2.493	2.281	0.253	124 200	,,
1.063	782.690	67.408	2.102	0.870	0.696	0.096	0.348	3.479	0.261	0.174	2.104	1.037	5.182	2.479	2.346	0.260	127.738	,,
1.064	779.449	67.196	2.089	0 866	0.693	0.693	0.346	3.464	0.260	0.173	2.163	1.032	5 164	2.464	2.411	0.267	131.268	,,
1.065	776.213	66.819	2.077	0.862	0.690	0.690	0.345	3.450	0.259	0.173	2.156	1.030	5.145	2.450	2.475	0.275	134.791	,,
1.066	772.984	66.646	2.063	0.859	0.687	0.687	0.344	3.435	0.258	0.172	2.147	1.027	5.127	2.435	2.540	0.282	138.307	,,
1.067	769.759	66.371	2.050	0.855	0.684	0 684	0.342	3.421	0.257	0.173	2.138	1.023	5.109	2.422	2.605	0.289	141.818	,,
1.068	766.542	66.098	2.037	0.852	0.681	0.681	0.341	3.407	0.256	0.171	2.292	1.019	5.092	2.407	2.675	0.292	145.330	,,
1.069	763.330	65.826	2.025	0.848	0.679	0.679	0.339	3.393	0.254	0.170	2.120	1·015	5.074	2.393	2.733	0.303	148.819	,,
1.070	760.125	65.556	2.012	0.847	0.676	0.676	0.336	3.378	0.253	0.169	2.110	1.012	5.055	2.378	2.798	0 310	152.309	,,
1.071	756.925	65.283	2.000	0.841	0.673	0.673	0.336	3.364	0.252	0.168	2.103	1.008	5.038	2.364	2.861	0.317	155.794	,,
1.072	753.731	65.013	1.987	0.833	0.670	0.670	0.335	3.350	0.251	0.168	2.094	1.004	5.070	2.350	2.925	0.325	159.271	,,
1.073	750.544	64.735	1.974	0.934	0.667	0.667	0.334	3.330	0.250	0 167	2.087	1.006	5.000	2.336	2.988	0.332	162.743	,,
1.074	747.362	64.462	1.972	0.831	0.664	0.664	0.332	3.342	0.249	0.166	2.076	0.997	4.983	2.322	3.051	0.339	166.208	,,
1.075	744.186	64.300	1.949	0.827	0.661	0.661	0.331	3.307	0 248	0.116	2.066	0.990	4.922	2.307	3.116	0.346	169.665	,,

Whatever differences of opinion may exist respecting the composition of healthy human blood, this Table, founded upon actual analyses made by the same individual, following the same processes, giving him credit for a moderate degree of accuracy, must prove a valuable standard of comparison.

diet and alcoholic potations. The hygienic influences to which they are subject, favourable to digestion, respiration, and all the functions concerned in sanguification.

From 1.060 to 1.069.

4. Blood of newly-born infants, collected from either extremity of the umbilical cord after its section. No other blood having been found of this density in the healthy state. From 1.070 to 1.075.

(See Table, previous page.)

I now place before you a table, necessarily very incomplete, of the density of blood in various diseases, as given by different physicians. It will serve to establish very clearly, by reference to the above statement, if that is to be depended upon, that every observation whatever, made upon the specific gravity of this fluid, requires to be compared with its presumed or previously ascertained healthy state; and in order to render this means of determining the composition of the blood of the greatest practical utility in pathology, the proportion of the other constituents must be determined by actual experiment. It may be remarked, also, that since blood-letting is adopted in acute states of disease only, the range of variation does not appear to be so great as it really is, if we take into consideration the opposite conditions of the system.

TABLE XXV.

Specific Gravity of Blood and Serum in various Diseases.

Sex.	Age.	Disease.	Blood.	T.	Serum.	T.	Authority.
M.	19	Diabetes	1.062		1.026		Davy.
M.	38	Diabetes	1.061	87°	1.027	60°	Babington.
M.	42	Diabetes	1.061		1.030		Davy.
M.	23	Slight pneumonia. Negro	1.061		1.033		Do.
F.	24	Severe catarrh and pyrexia	1.061		1.028		Do.
M.	23	Pneumonia	1.060		1.025		Do.
F.	60	Cough, pain in side, no fever	1.059		1.026		Do.
F.	22	Pleuritis	1.058		1.026		Do.
		Fevers in Ceylon, average of 5 cases	1.055		1.027		Do.
F.	17	Chlorosis, serum green	1.055		1.027		Do.
		Fevers in Corfu, average	1.054				Do.
F.	30	Phthisis, little pyrexia	1.054		1.270		Do.
M.		Jaundice	1.053				Denis.
M.	60	Purpura	1.049	87°	1.027	65°	Babington.
M.	22	Vertigo	1.049	87°	1.027	70°	Do.
F.	24	Vertigo and pregnancy	1.049	60°	1.028	60°	Do.
M.	64	Dyspnœa and cough	1.048	78°	1.030	50°	Do.
F.	34	Hæmoptysis	1.045	55°	1.027	55°	Do.
M.	19	Phthisis shortly before death	1.045				Davy.
M.	40	Phthisis	1.044	87°	1.028	60°	Babington.
M.		Pneumonia, fifth bleeding	1.039				Scudamore.
M.	26	Epilepsy, second bleeding	1.032		1.021		Davy.
F.	22	Vertigo	1.031	90°	1.025	55°	Babington.
		Cholera			1.045		O'Shaughnessy.
		Cholera			1.041		Do.
M.		Granular kidney and dropsy			1.019		Christison.
M	16	Dropsy and diseased kidney			1.018		Do.
F.		Albuminous urine, dropsy & epilepsy			1.021		Bright.
F.	25	Anasarca and ascites			1.013		Bostock.

The above instances are too few in number to arrive at general conclusions; but we may perhaps infer, that blood drawn from persons labouring under inflammatory and acute maladies, is, for the most part, more dense, although not greatly so, than the blood of the same persons in health; and that the proportion of animal matter is increased, while that of water is diminished. But at the same time it would appear, that it is not blood of the highest specific gravity which is most prone to inflammatory attacks. So long as it accords in density and composition with the constitution of the individual, a full power of preservation of health obtains. On the contrary, whenever blood becomes more dense and more animalised, than is consistent with the solid structures, and the vital processes in continual operation in the individual, there is a predisposition to dis-

ease, but more particularly to inflammatory and acute diseases. The specific gravity of blood will vary in the same case, and even during the same day; and it is greatly affected by remedies. Thus in a case of diabetes observed by Dr. Davy, it was 1.060 in the evening and 1.062 in the morning; at the third bleeding it was reduced to 1.058, and at the fourth to 1.050. A higher density may be attributed to a positive increase of the heavier principles—of the corpuscles, the fibrin, and the salts; and this, doubtless, is its cause in plethora, and in the gouty and rheumatic diathesis; but it may be owing, also, to a positive deficiency of water or serum, as in cholera and diabetes. It is much to be regretted that the observations on this subject are so few in number.

Hydrohæmia of M. Piorry—Watery Blood—Poverty of Blood.—The constitutional differences of blood, as to the proportion of water which it affords on analysis, were described on a former occasion. In the earliest periods of medicine, a state of the blood was recognised, in which its essential principles are not sufficiently numerous or concentrated for the functions of life, and

TABLE XXVI.

Proportion of Serum to Clot in Disease.

Sex.	Age.	Disease.	Serum.	Clot.	Authority.
F.	52	Cancer uteri—slight hæmoptysis	1000	9000	Magendie.
F.		Severe pleurisy	"	5490	Thackrah.
F.	32	Acute continued fever	"	3929	Langrish.
		Pneumonia, first bleeding	"	3545	Magendie.
		——— second do.	"	1000	
		——— third do.	"	1026	
F.		Cancer and marasmus	"	3333	Do.
F.	15	Phrenitis	"	3363	Langrish.
		Acute continued fever and inflammation, average of 12 cases	"	3300	Do.
		Quotidians, average of 12 cases	"	2623	Do.
		Tertians, average of 12 cases	"	2153	Do.
		Quartans, average of 10 cases	"	1427	Do.
F.	40	Disease not named	"	2906	Babington.
F.	7	Pneumonia	"	2820	Thackrah.
		——— second bleeding	"	1370	Do.
F.		Mild gastric fever	"	2810	Do.
F.		Uterine hæmorrhage after abortion	"	2700	Magendie.
M.		Robust man several days intoxicated	"	2666	Scudamore.
M.	18	Robust health	"	1840	Do.
F.		Peritonitis partly subdued	"	1590	Thackrah.
		——— second vessel same bleeding	"	1860	Do.
M.	58	Incipient peritonitis	"	1730	Do.
M.	60	Purpura	"	1495	Babington.
M.	35	Diabetes	"	1479	Do.
F.		Advanced phthisis	"	1560	Thackrah.
		Average of 16 cases of apparently slight acute attacks	"	1425	Scudamore.
M.		Phthisis and hæmoptysis	"	1400	Do.
M.	64	Dyspnœa and cough	"	1381	Babington.
M.	18	——— and palpitation	"	1366	Do.
M.	38	Diabetes mellitus	"	1323	Do.
M.	35	Do.	"	1292	Do.
F.	46	Hemiplegia	"	1230	Thackrah.
F.		Ascites with emaciation	"	1120	Do.
F.		Dyspepsia, spare habit, pale	"	1140	Do.
M.		Local ophthalmia, feeble constitution	"	1000	Do.
M.	40	Phthisis	"	960	Babington.
F.	24	Vertigo—pregnant	"	945	Do.
F.	34	Hæmoptysis	"	745	Do.
F.	22	Vertigo	"	380	Do.
F.		Uterine hæmorrhage—prostation	"	188	Magendie.

there can be no doubt that this condition may become a morbid diathesis, and even a disease. This has ever been called poverty of blood; one of its most characteristic symptoms is the leucophlegmatic complexion, and the preparations of iron have been looked upon as its appropriate remedy. The specific gravity gives no information respecting the nature and proportions of the particular solid constituents of blood in disease; but it is a means of estimating, with considerable accuracy, the ratio which the water bears to them. This is of the more importance, since the corpuscles, fibrin, albumen, and other principles, have relations among each other, and, taken together, their variations, in all probability, coincide with certain states of the whole economy. While, on the other hand, the degree in which they are diluted, as it were, or the proportion of water in the blood, is indicative of opposite states of the whole economy.

We may take another view of poverty of blood or hydrohæmia. The quantity of serum is large, as compared with the clot. In the present state of our knowledge, the distinction has scarcely been made between this circumstance and the former. The specific gravity cannot be an accurate measure of this, since the serum *frequently* contains more or less albumen, and of other substances, and we must, accordingly, adopt the method of analysis formerly described, to determine their quantity. There can be no doubt that a large proportion of water, and a large proportion of serum to clot, frequently coincide, and constitute a diseased state; but the latter indicates, in the living blood, a large proportion of liquor sanguinis to red corpuscles; while an aqueous state of the blood, and a low specific gravity, indicate poverty of the liquor sanguinis, or nutritive fluid itself.

The proportion, therefore, which the serum bears to the clot, in morbid blood, deserves attention. You are already aware that it is estimated at about 10 to 13 or 14 in health. But, unfortunately, the following table is comparatively of little value, since it affords no information respecting the degree of contraction of the clot, or the proportion of fibrin, serum, and corpuscles, of which it is composed. It must be confessed, also, that the rude mode of determining such points, which it implies, is completely typical of the infancy of this branch of medical science. But such tables have been given by authors on the blood, and I therefore think it right to place it before you:—

(See Table, previous page.)

In hydrohæmia the serum is in general transparent, and contains but little colouring matter. There is also, probably, but a small proportion of salts. It is necessary, in practice, to distinguish poverty from deficiency of blood. In the former, the arteries may preserve their calibre, the bulk of blood contained in the body being the same, although its nutritive qualities are diminished. Its colour is such, even in comparatively large branches of the vessels, that they appear to be transparent; there is a waxen hue, and the bones and deeper-coloured muscles appear to shine through the surface. This character is best observed in the living subject on the back of the hand; you may cause the blood to accumulate in the limb, by means of a ligature, but the integuments remain pale. The secreted fluids, as the bile, urine, and saliva, are transparent, and deficient in animalised materials. There is an absence of those signs which are furnished by anæmic patients on percussion; the liver and other organs are not diminished in volume; there is no bruit de diable; it is not so liable to be attended with syncope; nor is it so immediately threatening to life. On post-mortem examination, there is no diminution of fluid in the vessels and organs; but what they contain is deficient in colour, liquid, and but little coagulated; serous effusions in the pleuræ, pericardium, and other cavities are common; the organs are soft, and the heart in particular is soft and diffluent. Poverty of blood and bloodlessness have many causes in common, and frequently occur in the same individual.

Magendie performed the experiment of bleeding animals several times, and replacing the blood withdrawn, with water. Effusions into the cavities of the pleuræ, and subsequently into the peritoneum, occurred; and he found that the more abundant the serum, the more probable it is that consecutive exhalations will take place in various parts of the body. It is now admitted by all, that these exhalations have been too frequently mistaken for the results of inflammation. In animals bled before the performance of physiological experiments, for the purpose of preventing peritonitis, and other inflammations, these effusions, and the appearances of inflammation which attend them, become more certain and more universal. The same thing has occurred in the human subject; and the propriety of such a step, before the performance of an operation, must depend entirely upon the state of the blood, in reference to the constitution of the patient. Again, when the serum is increased, and the clot diminished beyond a certain degree, the blood is liable to become infiltrated from the capillary vessels into the pulmonary cells, and to accumulate therein, constituting the effusion called *hypostatic pneumonia*, always met with in dependent parts, which is the simple effect of gravitation.

With respect to the *causes* of this morbid state of the blood, Mr. Thackrah and others have attempted to determine them with precision, by means of experiment. The proportion of water in the blood is diminished slightly in an animal which has

fasted a few hours, and there is a trifling excess in animals recently fed. The latter circumstance is owing, no doubt, to the absorption by the veins of aqueous fluids, before the more animalised chyle can reach the blood-vessels. With respect to diluent and watery drinks, it appears that a large quantity absorbed into the blood, or injected by the veins (Table XXIII. 11), is not necessarily appropriated. The laws of vital action between the blood and the organs are such, that it is for the most part rapidly excreted by urine, transpiration, or otherwise. But experience teaches, that the habitual use of watery drinks, with a deficiency of nutritious aliment, deteriorates the qualities of the blood. Among the causes of this state of disease, vegetable diet is enumerated; but the effect of good vegetable diet in this respect is by no means permanent. Mr. Thackrah remarks, that a person suddenly removed from a rich animal to a vegetable diet, soon looks paler, and feels weaker; but when the constitution becomes accustomed to the change, the strength and the appearance of the individual improves. It is much more correct to say, bad and insufficient nourishment, whether azotised or not, is a cause of this state of the blood. It may be produced also by loss of blood. The remaining fluid becomes poor, because a certain bulk being necessary to fill the vessels, absorption of water takes place, hence the well-known rapidity of absorption after bleeding; besides which, the essential constituents may be so diminished in quantity, and the vital power of the blood so depressed, that it may never again recover its *strength*. The tardiness with which the hematosine is regained, and the length of time it sometimes takes for the nervous powers to recover their tone, after excessive loss of blood, has been before alluded to. Poverty of blood may be a consequence also of diseases of the organs concerned in sanguification, and there are many other causes. Vagrants in Ireland are said to present numerous cases of dropsy, in consequence of bad diet; there can be no doubt that the dropsy is an effect of this diseased state of blood. M. Gaspard describes the effect of a wet harvest in some of the departments in France, in 1816. "The inhabitants were obliged to subsist on the poorer vegetables, and contend for their food with the herbivorous animals. Cellular dropsy, without organic disease, was the most general result." A similar want of proper nourishment produced dropsy at Guadaloupe, and destroyed four thousand negroes. Mr. Thackrah referred these results, I should say, with undoubted propriety, to an increased ratio of water in the blood.

Hydrohæmia may be complicated with various other morbid states of the blood. It is for the most part one of the characters of chlorosis. Dr. Reid Clanny ascertained that in typhus fever the water in the blood increases from the sixth to the twelfth day, and that in favourable cases it decreases from the twelfth to the eighteenth day. How naturally does all this carry us back to the opinions of our forefathers. Treating of a winter fever, Sydenham states that it proceeds from the coldness, density, and moisture of the air, whence the pores of the skin are closed, and from an obstructed perspiration the blood becomes loaded with a copious serum; and he lays down the weakness of the blood as an indication to refrain from bleeding in a fever. So also did he regard dropsy as proceeding from a weakness of the blood, whether caused by an excessive evacuation of it by bleeding, or in any other way.

The treatment of hydrohæmia is, in many respects, the same as that of anæmia, but by no means identically so; hence it is important in practice to distinguish between the two. Diluting drinks in full quantity, for instance, are frequently indicated in the one; whereas abstinence from them is one of the most important indications in the other. Dietetic and hygienic rules are unquestionably the most powerful remedies, but medicines may be usefully employed. Upon the whole, I cannot say that all our discoveries in the nervous system, in materia medica, or in the functions of the stomach, have much improved the practice which was laid down for this purpose one hundred years ago, to wit, "Spices and generous wine, and especially the use of chalybeate waters; abstinence from all other sorts of liquids, dry food, and astringent vegetables; exercise, and especially riding; and, in general, such a diet as breeds good blood."

Inflammation of the Blood—Hæmatitis.—Before the time of Cullen, Brown, Bichat, and Pinel, inflammation of the blood was regarded as one of the most frequent diseases of the animal economy, and the principles of Galen and Boerhaave admitted its existence. Since the promulgation of the doctrines of Cullen, however, physicians, with very few exceptions, up to a very recent period, have regarded the notion as absolutely ridiculous. That series of symptoms, consisting principally of certain appearances and sensible qualities of the blood, and of an excessive action of the circulating system, which, under the term *causus*, or ardent fever, the ancients referred to an inflamed state of the vital fluid, the moderns, under the term *synochus*, have attributed to an inflammation of the lining membrane of the blood-vessels, or to the heart, or the lungs, the brain, the stomach, the intestines, or to the "nervous system;" there being no very general agreement among them upon this subject,

except in a total denial that the blood can be inflamed, or have any thing whatever to do with it. It appears to me, that by the progress of medical inquiry, we are reverting to the opinions of the ancients, and more particularly to those of our illustrious countryman SYDENHAM, whose admirable practical rules were, in numerous instances, founded on the principle that the blood is liable to be inflamed.

The appearance of a *buffy coat* in diseased blood, has excited the interest of practitioners of all ages, and has been the subject of the keenest controversies. Unquestionably the most characteristic circumstance in the diseased state we are treating of, it is occasionally absent, the blood still being inflamed. Or the formation of buff may be prevented after a portion of blood leaves the general mass; and, on the other hand, it may be produced in various ways, even in blood which was perfectly healthy during circulation, it, therefore, cannot be regarded as a pathognomonic sign. Yet, when perfectly formed, the buffy coat indicates more clearly than any thing else, that the molecular *actions* in the living human blood have been augmented in number and vivacity; that its vitality has been increased above the normal standard; and that it has been, to all intents and purposes, inflamed. The nature of the buffy coat, therefore, demands our especial attention in this place.

The usual phenomena of coagulation were described in the sixth and succeeding lectures; and the formation of the buffy coat is obviously a mode of this process, the result of disease. Inflamed blood, consisting, like healthy blood, of liquor sanguinis and red corpuscles, does not lose, when drawn from a vein, its natural translucency so soon. It preserves its *nearly perfect* fluidity long enough, to permit the red corpuscles, by virtue of their gravity, partially to subside through the liquor sanguinis. The liquor then separates into two parts, by a general and uniform coagulation and contraction of fibrin. The upper part of the coagulum, *through* which the red corpuscles have time to subside, furnishes a fibrinous or buffy coat; while that portion, *into* which the red corpuscles descend, furnishes the coloured clot. The consistence of inflamed blood does not augment so gradually; but when coagulation commences it proceeds rapidly, so that the process is frequently complete as soon as usual. The clot, in well-marked cases, is very loose at the bottom, owing to the great number of corpuscles collected there, each of which must have supplanted its bulk of fibrin; but, excepting in this particular, there is no more fibrin in one part of the clot than in another.

The chemical composition of buffy blood has been investigated with great care by M. Denis. Twenty-two comparative analyses furnished similar results, differing only in degree, of which analyses the following is an example. The blood was procured from a young man, labouring under inflammation of the blood and joints, or acute rheumatism. Its specific gravity was 1.051; serum 1.025. The buffy coat of a portion received into a deep vessel constituted a third of the mass. There was no deviation from the standard of health in the proportion of water, or in the quantity of its red corpuscles.

TABLE XXVII.

Composition of the Liquor Sanguinis of Blood highly buffed, as inferred from Post-mortem Analysis, and compared with that of healthy Blood.

	Healthy.		Buffy.
Water	900.00		900.00
Albumen	80. 77.34	80.9	67.9
Fibrin	2.66		13.
Fatty and colouring principles	10.0		10.1
Fatty acids	2.5		2.5
Soda	1.		2.
Sulphate of potassa	.8		.8
——— soda	7. .8	6.	.8
Phosphate of soda	.4		.4
Chloride of sodium	4.0		2.
Phosphate of lime	.3		.3
Lime Magnesia	.2		.2
	1000.		1000.

The most striking peculiarity in the chemical composition of buffy blood, is, then, the greatly augmented proportion of fibrin which it contains; and M. Denis's experiments fully confirm those of Thackrah, Scudamore, and others. In the example before us, instead of about 2½ there were 13 parts in 1000. The proportion of albu-

men is also diminished in an equal ratio to the increase of fibrin, again confirming the results of Mr. Thackrah's investigations, who states that he never met with an exception to this contrast of proportion between the albumen and the fibrin. Hence it is, that the serum of buffy blood has a lower specific gravity than that of the individual in health; while, at the same time, the liquor sanguinis is more viscid. Table XXV. confirms this observation; and I find additional confirmation of it, in numerous cases recently published by practical physicians. In Bright's "Hospital Reports," where the blood was buffy, the serum had a low specific gravity; and I cite this valuable authority for the purpose of remarking, that if the above statements are to be depended upon, the levity of the serum is not alone due to the circumstance of albumen passing out of the system with the urine, but it is, in part at least, attributable to the inflammatory state of the blood. Another most important peculiarity in Table XXVII., relates to the salts. The soda in the buffy blood is double that of health, and the chloride of sodium is diminished one-half; or, in another point of view, there is about one part in 1000 *minus* of chlorine; the quantity of alkaline salts, soluble in water, being respectively 7 and 6 parts in 1000 for the one and the other. There can be no doubt, that the salts of blood undergo the most important modifications in disease, and particularly in the inflamed state; but M. Denis's results in this particular require confirmation, more especially on account of the minute operations which the investigation involves, and we are bound to bear in mind the fact, that M. Denis has a particular theory of his own to support.

If a small quantity of the liquor sanguinis of buffy blood be collected in a watch-glass, it will soon undergo coagulation; and by placing it between the eye and a good light, it may be observed, at first, as a perfectly transparent yellowish liquid, without any indication of striæ, or globules; "but it soon becomes turbid by the formation of an infinite number of globules," and afterwards striated and opaque. Parmentier originally observed, that the serum of inflamed blood differs in other respects from that of health. M. Denis thus describes the difference. When heated it forms a jelly, instead of coagulating freely into a whitish, fragile, and consistent mass. When boiled in double its weight of water, it is partially dissolved. The part which remains insoluble resembles ordinary coagulated albumen; while that which is dissolved in the water, gives the latter the property of changing syrup of violets, green. On neutralising the alkali thus indicated, with acetic acid, the fluid becomes turbid, and affords more albumen when coagulated by heat. "Thus the gelatinous appearance results from an excess of alkali in combination with albumen; and the liquid evaporated so as to form a pellicle, and then cooled, becomes a trembling mass like currant-jelly." M. Denis obtained absolutely identical results, by adding soda to ordinary serum.

The colour of the buff varies from a greyish to a yellowish white, and is sometimes greenish. It is in general transparent, but sometimes very opaque. Its thickness varies from the twelfth of a line to an inch or more. It frequently adheres firmly to the clot, and at other times is easily detached, or it may be tough, coriaceous, and elastic. Incised, and examined with care, it presents an appearance of fibres and interstices filled with serum. Formed essentially of fibrin, it contains a quantity of albumen, and of the saline principles of the blood. The thickness of the buff bears no relation to that of the clot. It has sometimes a rosy tint. At other times, on close examination, it is said to contain greyish globules, which always concur with a purulent state of the lungs, or some other organ or part; a circumstance to which I shall more particularly allude on a future occasion. The cupped form which it assumes is owing to unequal contraction. The upper surface being most free from red corpuscles, contracts more powerfully than the under, and produces a concavity of the surface. This will not take place, however, if the contraction be weak, since, as remarked by Dr. Babington, the colourless fibrin, in assuming the cupped form, has to overcome the weight of the subjacent clot. The cupped and coriaceous buffy coat is that which most unequivocally appertains to an inflammatory state of the blood.

There are many circumstances which interfere with the formation of the buffy coat. Owing to rapid coagulation, there is no buff when the blood flows *guttatim*. It does not form so readily in a heated as in a cooled receiver. Blood projected so far, that it cools before it collects together, prevents the separation. The form of the vessel may also have the same effect, for a very plain reason; the space left by the gravitation of the red corpuscles, bears a proportion to the whole perpendicular depth of the blood, so that in shallow vessels scarcely any buffed coat may appear, when the same blood in a deep vessel would have furnished a thick buff. Great importance has been attached to the fact, that fainting prevents the formation of the buffy coat. M. Denis collected a quantity of blood from the above-mentioned patient when faint, it did not exhibit a buffy coat; but there were whitish granulations throughout the mass, and the clot was firmer than it should be. By agitating buffy blood during bleeding, and ceasing at the moment when coagulation is about to take place, the formation of the

buff is prevented, but similar granulations are obtained. Doubtless many other circumstances will prevent the mechanical separation of fibrin and red corpuscles. Yet, under all these circumstances, inflamed blood furnishes the same relative proportion of fibrin; so that it would appear that, under various circumstances, the whitish granulations in the clot represent the buffy coat. The blood received at the commencement of the bleeding, is neither more nor less fibrinous than that which flows afterwards. The variations, therefore, which blood drawn at one time presents, depend upon the manner in which it flows, and the vessels into which it is received, rather than upon variations in its composition. These conditions can never produce the buffy coat, if the blood is not in that diseased state upon which its formation depends. It appears from this statement, contrary to opinions formerly held, that "*neither the form of the vessel, syncope, nor the period of the bleeding influence the quantity of buff contained in the blood.*"

M. Piorry's numerous observations have led him to the conclusion, that the buffy state of the blood has its origin in the blood itself; and M. Andral, many years previously, regarded it as the result of an inflammatory state, believing with the ancients that this state, at all events, frequently precedes local inflammations, which are rather the consequences than the causes of it. This inflamed state of the blood is attended with increased rapidity of circulation, for the most part preceded by rigors, and accompanied by augmented animal heat, or by sweating. The colour of the blood in the arteries is heightened, and there is more bright blood in the veins than usual. Its chemical composition after it has lost its vitality, more especially the increased quantity of the highly animalised substance fibrin, shows clearly that its molecular actions have been augmented during life and circulation. Its augmented temperature has been determined by direct experiment; and this increased evolution of caloric, is another clear indication that its intimate vital actions are augmented; it also explains in part, if not altogether, the increased rapidity of its circulation, as demonstrated by M. Poiseuille's experiments on the effect of heating and cooling the blood, before described. The increased temperature of 30 lbs. of blood, regarding that blood as in part gaseous, and in many of its constituents highly volatile, accounts for many of the general symptoms, and many of the consequences in the minute capillaries of the brain, and other organs, of an inflammation of the blood. The increased density of the liquor sanguinis is another important feature. We have to bear in mind the innumerable complications to which this inflammatory state of the blood is liable. It may be combined with sanguine plethora, or a superabundance of rich blood; and this, in many instances, constitutes a predisposition to inflammation of the blood; but it may also supervene in general anæmia, or it may coincide with a vitiated state of blood, from imperfect respiratory changes, or from the introduction of foreign or poisonous substances. It may occur also in a state of poverty of blood, a disease already described; and, lastly, it may be complicated with one or more of those local inflammations, which constitute so large a portion of the acute diseases in our nosological catalogues.

RUMINATION IN MAN.

To the Editor of THE LANCET.

SIR:—Accustomed as I have been, through a great part of my life, to the public service, where no medicines are supplied but such as are known to be really useful, and none are introduced for the purpose of decorating a physician's prescription, I can claim no merit for having carried with me into private practice the ideas of simple *formulæ* inculcated by such a school. Often have I had occasion to regret that the system is not more generally adopted. If the farrago of combination (sometimes of incompatible substances) which I have seen issue from the pen of even popular physicians were almost sickening to the thinking practitioner, what must it have been to the patient.

Man, certainly, is not naturally a ruminating animal; and yet I have seen three cases wherein that process was so complete after every meal, that it not only became a serious disease, but a most disgusting exhibition.

The first was an old farmer, who, to save time, had acquired a habit of "bolting" his food, as he termed it, then getting on horseback, and subjecting his dinner piecemeal to mastication at his leisure. Being a frugal character he eventually became rich, mixed in better society, found his acquired habit, although quite comfortable to himself, very unpleasant to others, and wished to shake it off through the aid of medicine. Many prescriptions were tried, some of an elaborate kind, without effect, and he finally abandoned them all as useless.

The second case was an hysterical female, of middle age and weakly digestion. Rumination, accompanied with flatus, followed every meal, and continued for some considerable time, rendering her unwilling, as well as unfit, to appear in society, and truly miserable; she found it checked in some degree by a little whisky, then brandy and other stimulants, but one after another lost their effect; and although it was considerably abated by several medicines and modes of regimen, it was never completely cured.

The third is a schoolboy, of 12 years old, of a healthy constitution: the ruminating

process began soon after every meal, but most pertinaciously after dinner. Although frequently checked for it, he would absent himself for the purpose of indulging in the re-mastication, finding it attended by a somewhat pleasurable sensation.

A scruple of carbonate of soda, with three grains of powdered ginger, were ordered after every meal, and in two days he found the propensity lessened; he could, by an exertion of deglutition, prevent it, and it seemed to disappear after twelve powders had been taken. The powders being now omitted, the rumination returned; the same means again succeeded, and after using this *simple remedy* for about three weeks, he has remained now several months quite free from this disagreeable affection.

If, Sir, you think this isolated, practical fact worthy of a page in your most useful Journal, I freely communicate it, and feel pleasure in being able to add one to the many valuable papers on practical subjects contained in its pages. I am, Sir, your obedient servant,

WM. WILSON, Surgeon, R.N.

55, Upper Charlotte-street, Fitzroy-square, July 14.

CURE OF SQUINTING.

To the Editor of THE LANCET.

SIR:—I beg to forward to you an account of three cases of strabismus convergens, cured by division of the tendon of the internal rectus muscle. I am, Sir, your obedient servant,

R. T. LIGHTFOOT, Surgeon.

Newcastle-on-Tyne, July 14, 1840.

CASE 1.—*Susanna Forster*, aged 10. Her parents state that her eyes were perfectly straight until eleven months ago, when she suffered from a mild attack of measles; during or immediately after which she was observed to squint with her left eye: since then it has gradually increased. At present, when desired to look at an object placed directly before her, one-third of the cornea is observed to be concealed behind the inner canthus. When the right eye is closed, the movements of the left are quite normal, and its power of vision equal to that of the other side. On the 22nd of June, with the assistance of my friends, Drs. Charlton and Elliot, I performed the operation in the following manner:—The patient being seated, a cloth was passed round her body, and fastened behind the chair: a bandage was placed over the right eye, and her head rested against Dr. Charlton's breast, who also elevated the upper eyelid with his fingers, whilst Dr. Elliot depressed the lower one. Desiring the patient to evert the eye as much as possible, I passed a small hook through the conjunctiva, about a line external to the caruncula, and gave it to one of my assistants, desiring him to evert the eyes, and stretch the conjunctiva. This membrane was then divided between the caruncula and hook to the extent of half an inch from above downwards, by means of a triangular cornea knife. The hæmorrhage was trifling, but the loose subconjunctival cellular tissue near the incision being infiltrated with blood, presented almost a muscular appearance, and rather retarded the introduction of a bent silver probe beneath the tendon of the internal rectus muscle. After a little delay it was effected, and the tendon being brought into view, was divided with a sharp pointed, curved bistoury. The eye instantly became straight. She could now evert it to any extent, but could not invert it in the same degree. A small portion of conjunctiva, which prolapsed between the eyelids, was replaced with a probe, and the eye covered with a fold of lint wetted with cold water. The application of the cold water to be continued during the day—to have six leeches applied to the lower eyelid, and to take a purgative powder at bed-time.

30. The movements of the two eyes are quite parallel: all that now remains is a slight ecchymosis, and prominence of the newly-cicatrised conjunctiva.

CASE 2.—*John C. Preston*, aged 23, has squinted with his left eye since the age of five or six years: he cannot attribute it to any cause, except having acquired the habit by imitation from one of his companions. At present the eye is so far distorted, that one-fourth of the cornea is concealed by the inner canthus. On closing the sound eye, the left can be everted to about half its normal extent. Its sentient power is much impaired, being unable to distinguish any but the largest print.

June 29. With the assistance of my friends, Dr. Charlton and Mr. Snowden, I divided the tendon of the internal rectus in the same manner as in the case of Forster. The hæmorrhage was trifling, and division of the tendon easily effected. The eye instantly resumed its natural position. Lint soaked with water to be constantly applied to the eye during the day, and to have a dose of castor-oil at bed-time.

July 6. Mr. P. resumed business to-day: a slight redness and prominence where the conjunctiva was divided, being all that now remains; and that is only observed when the eyelids are separated, or the eye considerably everted.

CASE 3.—*Hephzibah M'Pherson*, aged 21, has squinted with her right eye since the age of four years, when she acquired the habit without any known cause. At present, nearly one-third of the cornea is concealed by the inner canthus. On covering the sound eye, she can evert the other so far as

to bring it straight: its sensibility is much impaired, being unable to distinguish the largest print.

July 10. I divided the tendon of the internal rectus, with the assistance of my friends, Dr. Charlton and Mr. Smith. Immediately the eye resumed its natural position, and moved parallel to the other. Cold water to be applied all day, and the aperient powder to be taken at bed-time.

14. The patient resumed her occupation to-day; all that is now observed being a slight redness and thickening where the conjunctiva was divided.

MR. LIETCH'S MODE OF OPERATING FOR THE CURE OF SQUINTING.

To the Editor of THE LANCET.

SIR:—From the information to be gathered from the reports of the operations for strabismus, it would seem that nothing is so easy as to take the dimensions, in the living body, of the inner rectus muscle, and to estimate the degree of rotundity or flatness of the tendon; but, however distinct these parts and proportions may be in the finer atmosphere of the south to the keener eyes of London surgeons, it is certain that in the north, immediately after the first incision into the conjunctiva, if made vertically, the parts become so disguised by the blood that trickles from the wound, that it is with some difficulty that either the tendon or the muscular fibre can be distinguished; and if, from the unruliness of the patient, or any other cause, the operation is prolonged for one minute, the whole of the parts around the incision become so puffed up and ecchymosed, as completely to conceal the tendon in question.

Under these circumstances, then, a bent probe or blunt hook, as used by Mr. Lucas, which may be directed round the tendon after it has been lost to the eye of the operator, seems to be a very necessary instrument. In my first five or six operations, I used an instrument that may be described as a blunt hook with a cutting edge on its concavity, which, after being passed round the tendon, cut it across on being withdrawn; thus, the necessity for an additional instrument was dispensed with, an object of some importance in working about the eye, while the possibility of dividing a portion of the discoloured and thickened conjunctiva in mistake for the tendon, a misfortune which has happened, was entirely obviated. The above instrument effected the desired object very well; still the operation seemed but a blind and groping piece of business, compared with what it had appeared to be in the pages of THE LANCET. I have, therefore, latterly adopted the following mode of operating, by which it is effected more briefly and satisfactorily, while the ecchymosis is not, by any means, so great, nor the injury to the conjunctiva so serious, as by the usual mode.

The upper eyelid being fixed by a speculum, wrapped round with a piece of lint to prevent it slipping, a single hook, large enough to pass through the conjunctiva into the sclerotic, is inserted about three or four lines from the inner margin of the cornea, and firmly fixes and rotates the eye. Having observed that a very fine hook passed merely into the conjunctiva was apt, if the patient were restless, to tear away that membrane as far as the margin of the cornea, I adopted the above larger hook, which fully answers the purpose required.

Mr. Liston's plan of keeping the lower eyelid down by attaching a pair of spring artery, or, as he calls them, "bull-dog" forceps to the conjunctiva, and allowing them to depend over the lower lid, is all that is further required for giving the operator the most complete command over the eye. An instrument, with a straight small knife at one end of the handle, and a fine blunt hook, the curve of which is about a line and a half in diameter, at the other, while the shank or stalk of the hook forms a knife, whose teeth are set upwards, is what I use for completing the operation. A longitudinal incision having been made by the knife along the lower edge of the rectus tendon, the instrument is turned, and the flat hook passed under it, about four or five lines from the edge of the cornea, where, free from any cellular membrane, it plays over the sclerotic. The upper edge of the tendon is caught by the hook, and drawn out at the incision; then, by simply passing the sharp edge of the hook shank upwards, the tendon is effectually divided. If the patient be quiet, the operation need never occupy more than a minute.

The advantages of this mode of operating seem to me to be the making of the incision in the course of, and not across, the vessels; there being less ecchymosis, and consequent disguise of the parts, enabling the operator to see satisfactorily the object he is in search of; and in the tendon being divided without the conjunctiva *immediately* above it being cut, the wound consequently healing much more rapidly than by the other method. I am, Sir, your obedient servant,

D. ROSS LIETCH.

Tynemouth, Northumberland,
July 16, 1840.

P.S.—I do not observe a report of any cases of congenital strabismus. I have had two, which went on as well as might have been expected; the squinting being produced by the same cause which operates in other cases.

TREATMENT OF THE CONSTIPATION IN LEAD COLIC.

To the Editor of THE LANCET.

SIR:—The accompanying case you may, perhaps, consider to be likely to assist my professional brethren in the treatment of that most obstinate complaint, "colica pictonum." I remain, Sir, your obedient servant,

FREDERICK MOSGROVE.

1, Finsbury-terrace, City-road,
July 15, 1840.

July 4. I was requested to visit J. W., æt. 32, a painter, whom I found labouring under a most severe attack of colica pictonum, the spasm so intense as to render him at times perfectly insensible, and in a state closely bordering on epilepsy. I learnt that he had felt slight pain in the bowels during the preceding day, for which he had taken two doses of Epsom salts, but without producing any action of the bowels. I prescribed calomel with large doses of the extract of hyoscyamus, and a purgative mixture to be repeated every second hour. In the evening the spasms were somewhat less intense, but the bowels not having been relieved, I repeated the calomel with opium, and ordered castor oil and turpentine enemata to be given at intervals during the night.

June 5, 8 A.M. The spasms were slightly relieved during the night, but are now increasing in intensity; two enemata have been retained without occasioning any evacuation of the bowels. Having frequently found the shock occasioned by a sudden application of cold water very beneficial in epilepsy, I determined on having recourse to it in this case, more especially as the epileptic symptoms were evidently returning. I directed that my patient should be seated in a large tub, and that a jugful of cold water should be dashed three or four times against his abdomen; being in much haste I was unable to remain to see the remedy employed, but on visiting him in the afternoon, I was informed that the pain had been so much relieved by the application of the water, that he was immediately enabled to sleep for a short time. About an hour afterwards the spasms threatened to return, when he requested his wife to have recourse again to the cold water, which instantaneously checked the spasm.

Thinking, from his wife's reluctance to the employment of the remedy, that she might not have applied it as effectively as I desired, I had him placed in a tub, and repeatedly dashed a large jugful of cold water, with much force, and as rapidly as possible, against his abdomen; this caused a slight evacuation of the bowels within ten minutes; I then gave directions that if the bowels were not more freely relieved in an hour, a large ewer full of cold water should be gradually poured from a slight elevation on his abdomen. On visiting him three hours afterwards I found this had been done, and that the bowels had been freely evacuated five times; the spasm had entirely ceased; he was enabled to visit me the following morning, and has not, since the last application of the water, had the slightest return of spasm. I should mention that at first he expressed a strong disinclination to the employment of the remedy, but having found himself so instantaneously relieved, expressed much anxiety that it should be repeated.

RESTORATION AFTER DROWNING,

BY VOLTAIC ELECTRICITY

ACTING ON THE PHRENIC AND EIGHTH PAIR.

THE following particulars are published by Dr. FERGUSON, Surgeon to the Westmeath Infirmary, in the "Dublin Medical Press" of July 1st:—

On Thursday evening, the 18th instant, I was requested to see James Rock, who had just been taken out of the canal, and was supposed to be dead. I was with him in four or five minutes. I had him forthwith removed to the County Infirmary, about 900 yards distant. Several persons said that he was six or seven minutes under the water, and that he had been intoxicated. Finding the abdomen very much distended, I immediately introduced the stomach-pump, and discharged by it upwards of a gallon of water, strongly impregnated with spirits. All the ordinary means of restoring animation failing, I tried a plan which I have long considered likely to bring about the action of the heart and lungs, by immediately acting on the diaphragm, and accordingly was prepared with the necessary apparatus. I made an incision below the seventh rib—cut down on that important muscle—laid it bare, and applied the conductors of a galvanic battery, consisting of fifty pairs of plates, to it. The effect was instantaneous, and surprised all the persons present. The muscles of the chest and abdomen became spasmodically engaged; after a few moments, I could see this spasmodic action gradually disappear, and the regular action of the chest come on, which soon increased till breathing became quite apparent, as also the circulation; and blood, now for the first time, issued from the wound I had made in the chest.

He has continued to go on well, under the use of the lancet, and the antiphlogistic treatment; and I have no doubt of discharging him, cured, very shortly.

This case will also go to prove, in my opinion, that it is not necessary to transmit

along the *channel of the nerves*, this most wonderful agent, as a substitute for nervous influence.

The stomach-pump was of much use, as by relieving the great distension of the stomach, the lungs were better able to fulfil their function, upon the galvanic influence being applied. In cutting down and exposing the diaphragm, much caution is necessary, not to wound it, however slightly, the consequences of which might be very bad.

THE MEDICAL SOCIETIES.

In The Lancet of about twelve months' since,* we made some observations on the mode of conducting business at the various medical societies in London, and on various abuses which prevailed in those assemblies. In the Medico-Chirurgical Society several evils were shown to exist which tended to lessen its utility;—the obstacles, for instance, that were opposed in it to discussion on papers of importance; the reading and consequent mutilation of the papers by the secretaries; the absence of authors to explain or vindicate their productions, and the practice of balloting for members during the perusal of manuscripts, by which the attention of the auditory was distracted, the essay disfigured, and its impression very much weakened. To these may be added, another drawback upon the pleasures of attending the society, namely, the detention of guests and invited strangers in an anteroom, until "permission to enter" has been issued to them from the library. This is attended with discomfort to the visitors, has an unhospitable aspect, is quite useless, and obtains for the society no sentiments of respect, on the score of stiffness or formality. Of these various abuses, one only has found a remedy, namely, the first. The discussions during the past session have possessed much interest, and frequently have been carried on with life and spirit. This essential improvement is attributable to the example of the President, and experience has shown that the objections which had been raised to discussions were totally without foundation. Indeed, the past year has been the most "successful" since the foundation of the society; and both the attendance and the new applications for admission have been larger, it is said, than in any previous session. The fear of some members that the society would be converted into a mere "arena of debate,"—meaning thereby something contemptuous,—has proved groundless. On the contrary, mere talkers,—those members who, in past sessions, used to address the Chair seven or eight times in a night, giving expression to worthless opinions,—have been kept down by the general permission to speak. The practical remarks of experienced men have silenced these disciples of Gratiano, who "talked an infinite deal of nothing," and have rendered the discussions, as was observed by the President at the anniversary meeting, an important part of the proceedings throughout the session. Sir Benjamin Brodie has afforded every encouragement to the discussion, and has himself taken a frequent share in them.

As regards the other faults of the society, the remarks of last year are still applicable.

The establishment of the pathological meetings of this society terminated in a different manner from what was expected. Misunderstandings and jealousies were engendered at the commencement, and attended it to the close. The general welfare was sacrificed to an indulgence in personal bickerings and petty enmities; and this branch of the society, dwindled into a mere exhibition and lecture-room for half-a-dozen of the medical officers of one of the hospitals and the Marylebone Infirmary, whose only auditory was themselves.

The London Medical Society has, during the past session, added little to its reputation as a scientific assembly, but measures have been adopted to render its proceedings more valuable, and its discussions more practical.

Respecting the Westminster Medical Society, it is to be regretted that the attendants out of upwards of a thousand members, do not contrive to render the discussions less puerile and theoretic. The error in this society is traceable to the starting of questions which are altogether irrelevant to the subject first propounded, and to the absence of written papers, announced at previous meetings, in order that the members may come better prepared for criticisms and comments. A more useful career is open to this society. It includes amongst its members some of the best men in the profession.

As these societies are the medical parliaments of England, information is looked for from them which ought to be of a sterling character. Those who start abstruse subjects of discussion in medical societies, should bear in mind the observation of the President of the Medico-Chirurgical Society, "that if medicine be not dealt with practically, it is neither interesting nor useful."

The Hunterian, the Harveian, and the Physical Societies, excite little interest beyond the walls within which they hold their meetings. In the Guy's Physical Society, when the subject is a debateable one, the fatal characteristic exists of the members having, pretty nearly all, imbibed the same opinions on various subjects, such as are known to belong to the teachers in the hospital.

* Vol. II., 1838-9, p. 517.

THE LANCET.

London, Saturday, August 1, 1840.

THERE is a wealthy patriotic gentleman of Liverpool, who is so peculiarly favourable to the formation of at least one park, for the health and recreation of our "good old town," that he has expressed a desire, should he find a suitable site, to lay out a sum of £50,000 in the purchase and laying out of the ground, and to dedicate the same gratuitously to the use of the public for ever.—*Liverpool Standard.*

Whether the desire of the "wealthy patriotic gentleman," referred to by the "Liverpool Standard," will soon be realised, or will die, undeveloped, like the children of Liverpool, we have no means of divining. But the intention is well worthy of a benevolent and enlightened mind; and it would be amply rewarded by a walk on some fine holiday among the healthy, glad faces of young and old, enjoying the air and sunshine of the park. The health and happiness of his humbler fellow-citizens would form a noble monument, perhaps as glorious, perhaps as lasting, as the bronzed columns, in places of victory, wreathed to the top with triumphs, with the rage of battle, the wounded, the dying, the smoke of burning cities, the ruins of commerce, and all the savage grandeur of war. At the risk of displeasing certain parties, we shall take frequent opportunities of repeating the observations which we made on the unhealthy state of Liverpool, until one of the wealthiest and most enlightened is, as it should be, one of the healthiest towns in the kingdom. The few remarks which we offered, supported by the facts in the Registrar-General's Report, appear to have produced an effect, which Dr. DUNCAN can scarcely regret.

A meeting has recently been held in the City, for forming a *Park in the East-end of London.* We wish the undertaking well, and shall be glad to contribute in every way to its success. It would do more good than half the missionary societies and hospitals in the country.

THE meeting of the PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION at Southampton was well attended, and several points of considerable interest to the profession were brought under discussion. Since the Council has taken up the question of Medical Reform, it has risen in public opinion; and its zeal and labours in this great cause will continue to measure its utility, and its claims to the support and respect of medical practitioners. So long as the Council stood aloof, talked vaguely, wasted the energies of the members, and refused to demand justice, for their twenty thousand brethren, from the Legislature, there was room to doubt the sincerity of their motives; for what good or "great designs" could a body entertain that slurred over Medical Reform, the question upon which the progress of education, of science, and of all the substantial interests of medical practitioners turned? If the Council of the Association had continued silent any longer, the whole Association must have fallen to the ground, and come to naught, in the midst of the progress that has latterly been made by Medical Reformers. It is certainly with no regret, but with pleasure, that we have seen the decided course upon which the Association has entered; and we are quite willing to believe the assertion, that the Council has been withheld from action, by the fear that it would fail to be carried along by the tide of opinion in the country. That fear the Council can no longer entertain. Every explicit, manly expression in the report of the Reform Committee was applauded in the largest meeting held; the timorous, half-and-half measures, were listened to in dead, disapproving silence; and when Dr. BARLOW seconded the resolution, that a measure of Medical Reform, founded upon a *uniform test* of education, and the *representative principle*, be forthwith sanctioned, the expressions of approbation were unequivocal, loud, and prolonged.

Dr. STEED was installed as President in the place of Dr. JEFFREYS, and delivered an address on taking the chair. In the idiom

of our neighbours, the learned Doctor's discourse *escapes* analysis; and we must refer to the Report, in another page, for every thing of interest it contained. Like his predecessors, Dr. STEED evidently considers the town in which he lives a pleasant place: the climate is genial, the men are brave, the women are fair, trade and commerce are flourishing, the population is increasing. The air is excellent for patients; but he gave his brethren to understand, that it would not agree well with practitioners. If any of the gentlemen present should be tempted by the picture which he had drawn, he begged to inform them that *thirty* residents gathered the manna that fell, and had none to spare. It was on the shore, near Southampton, that King CANUTE bid the tide withdraw; and here Dr. STEED gave the rein to his imagination, in narrating all the details of that apocryphal story. Sir ANTHONY CARLISLE and Sir HENRY HALFORD may bid the waves of Medical Reform retire—they may shake the maces of the Royal Colleges, and utter exorcisms in the languages of the old world,—they may frown, as kings and corporations frown; but the surging waters would rush over the sands; and we are left to infer, that if Sir ANTHONY and Sir HENRY ever attempt the part of King CANUTE, they must fly, and cry, ignominiously, the —— take the hindmost, with Dr. STEED and the *twelve hundred* in their rear.

Our attention has been called to a great improvement in a point that may be considered of secondary—but which we cannot help thinking—of primary importance. These migratory meetings have too often been the occasion of excessive indulgences of various kinds. The eating, drinking entertainments, and profuse hospitality of the members, have occupied too prominent a place in the business of the meetings. The evil attained a crisis at Liverpool; and Dr. JEFFREYS, when he abdicated declared, that he had no doubt the reception of the Association at Southampton would be as much warmer as the climate was more genial. But the scandal of Liverpool hospitality, and the parlour feasting of Shrewsbury—our observations upon which called down the rebuke of an Irish contemporary—were not repeated at the Southern meeting. The Deputations from Ireland, Newcastle, and London, in fact, all strangers, were quietly left to patronise the hotels; and the result was in the highest degree satisfactory.

The Report of the Council was read, and reference was made to the passing of the Vaccination Extension Bill, the clause prohibiting inoculation being considered the most important feature in that measure.

In the evening of the first day an eloquent and energetic Report on Quackery was read by Dr. COWAN, of Reading. We shall probably advert to its recommendations at another time. Dr. COWAN, on delivering in the Report, took occasion to animadvert on the quackery that sheltered itself in the ranks of the Profession. At the Liverpool meeting he brought a charge of wholesale quackery against the Liverpool Apothecaries' Company. But discussion on the subject was then suppressed by the President. The Liverpool Apothecaries' Company, comprising among its shareholders nearly all the physicians and surgeons of the town, dealt largely in quack medicines. This he considered disgraceful, and he had not been deterred by any private considerations from describing the conduct of the Company in its true colours. The consequence was, that the publicity of the infamy had led to the suppression of this branch of the Company's trade. He read an extract from a letter, in which it was stated, that the Directors, with a becoming regard for their character, had recently passed a resolution to the effect that they would no longer vend patent medicines, or the nostrums of quacks of any kind.

Dr. JEFFREYS attempted in vain to defend the quackery of the Liverpool Apothecaries' Company, and the ex-President grew purple in the constrictor grasp of his merciless antagonist; but whether it was all the effect of argument, heat, agony, or wine, the lights

did not show. Like MARRYAT's wet-nurse, who could not deny that she had had a child, but declared that it was a very little one, the doctor said, amidst endless laughter, that he was a shareholder, but to a very small extent; he only held *ten* shares, and never attended the meetings. Why, did they talk of patent medicines? Had not many valuable compounds been patented? Was not JAMES's powder a patent medicine? Then, when Dr. COWAN stated that the Company had £1700 invested in patent medicines, he was much misleading the meeting. Why, their stock of magnesia was worth more than that. Sir JAMES MURRAY here caught the ex-President's eye, and was instantly upon his legs. He entered into a very elaborate detail of the virtues of *magnesia* in a concentrated liquid form, and performed an experiment by administering a large dose to the meeting, which, though a little nauseous, had the effect of neutralising the acidity of the discussion.

Dr. B ——, who laboured under a slight impediment of speech, pleasantly said, he had a communication to make, but it was late; they had heard an admirable Report on Quackery by Dr. COWAN; and Sir JAMES MURRAY had proved to them that there was nothing like Ma—a—a—a—gnesia—(Hear, hear, hear, hear, and great laughter)—so he would *dissolve* the meeting.

We shall devote an article next week to the Report of the Committee on Medical Reform, and the important discussion to which it gave rise.

OPERATIONS AT THE HOSPITALS.

To the Editor.—SIR:—I beg to call your attention to the much-complained-of practice, in some of our public hospitals, of allowing *strangers* in the area of the theatre to stand so near to the patient as entirely to prevent *the students* from obtaining the least view of the operation. I allude more particularly to University College Hospital. I trust that this notice will obtain a remedy for the evil from the officers of that establishment.
Your much obliged,

S. R. G.

University College, July 23, 1840.

PUNCTURE OF THE BRACHIAL ARTERY.

To the Editor of THE LANCET.

SIR:—When I practised as a surgeon at Ledbury, in Herefordshire, my assistant, the late Mr. Mann, surgeon, of Leamington, opened the brachial artery instead of a vein. The artery ran superficially under the skin, and, the ligature being applied, he, of course, felt no pulsation in the vessel. Seeing what was done, I allowed the requisite quantity of blood to flow, and afterwards used compression, and the incision in the artery healed perfectly, and left no aneurism. I recommend young surgeons to feel for the pulsation of an artery before the ligature is applied. If they will do this, they will not fall into error. I am, Sir, your obedient servant,

C. SELWYN.

34, Clarence-square, Cheltenham,
July 28, 1840.

EMOLLIT MORES, NEC SINIT ESSE FEROS.—In this country (America) many excellent men fear the power of the demagogue to mislead the people. I should like to see the most splendid orator who ever bent a people to his will, address an assemblage of men who had been instructed in Phrenology from their youth, who had been trained to analyse every word as quickly as it was uttered; I should rejoice to witness the attempt of Demosthenes himself, to instigate such an assembly to deeds of outrage and injustice,—that the remedy for all social evils was to plunder the rich, to degrade the refined and intelligent, and to enthrone ignorance and rude propensity in places of authority and power. The orator would be committed to a lunatic asylum by a unanimous vote of the people whose reason he had thus insulted, in the full conviction that he was insane.—*Dr. Combe, at Boston.*

IN a rare little book, entitled, "The Medical Review, a Poem, being a Panegyric on the Faculty of Dublin; Physicians, Surgeons, and Apothecaries, marching in Procession to the Temple of Fame; by John Gilborne, M.D.; Dublin, 1775;" at p. 46, line 759, the following verses occur:—

"*John Sproull*, chirurgeon of fair town Strabane,
Cautious, defends the patient's back with lawn,
Before he lays his epispastic on,
To keep the blister whole, not let it run.
Cambric or lawn on such occasions wear;
'Tis better clip your skin than rudely tear;
The force of the cantharides gets through,
And in a gentler manner comes to you."

Dublin Journal, May, 1840.

ST. VINCENT'S HOSPITAL, DUBLIN.

MORBUS COXÆ SUCCESSFULLY TREATED WITH MERCURY.*

The following case of disease of the hip-joint, arrested in its early stage, by the exhibition of mercury, upon the plan first introduced and successfully put in practice by Dr. O'Beirne of this city, possesses some features of novelty, and presents some points of difference from those which have been already published.

In the first place, it goes far to prove that mercury, carried to the extent of salivation, with rest in the horizontal posture, is quite adequate to effect the cure of morbus coxæ in its first stage, without local bleeding in any form, or counter-irritation in any shape. The patient, previous to the present attack, had laboured under hip-joint disease upon the opposite side, which had gone through its several stages, and had ended in permanent shortening and deformity of the limb. But few cases of cure, are, I believe, upon record.

O'Bryen Bellingham, M.D., one of the Surgeons of the Hospital.

James Tight, aged 10, a scrofulous-looking boy, with red hair and blue eyes, admitted into St. Vincent's Hospital, March 19, 1840. His mother states, that six years ago he laboured under hip-disease upon the left side, which ended in a shortening of the limb to the extent of three inches; the leg and thigh are, in addition, wasted; and the knee is permanently semiflexed. Within the last six weeks, he has suffered from weakness of the right limb; a fortnight ago his crutch slipped from under him, and he fell upon the ground. Since then he has complained much of pain in the right hip, which is more severe at night than in the day, and he cannot bear his weight upon the limb. On one day only he says he suffered from pain in the knee. He complains of pain when the articular cartilages are pressed against each other, or when pressure is made upon the great trochanter, or in the groin. He has lost flesh and appetite, the buttock is flattened, but no comparison can be made with the opposite side, on account of the condition of the limb. His mother says, that for the last fortnight he has moaned constantly during the night, and that the symptoms are similar to those with which the disease set in upon the opposite side.

He was directed to remain in bed, and take a pill containing calomel, gr. ij., and opium half a grain, night and morning.

March 20. Slept better last night than he had for the last fortnight.

21. Bowels moved once by the medicine; had no pain last night.

23. He told me that he got up yesterday, and was able to walk with the assistance of his crutch. He suffers no pain now when pressure is made in the groin, or when the head of the femur is pressed pretty firmly against the acetabulum.

25. His mouth is sore; says he can walk as well as ever; has no pain at all at night, and rests well. His mouth to be gargled with a solution of alum, and let him take but one pill in the day.

26. Mouth better. To take a pill twice a-day.

28. Bears strong pressure of the head of femur against the acetabulum; also strong pressure over the trochanter major, and in the groin, without complaining.

April 2. Says he is quite well; mouth sorer. Discontinue the pills.

6. Says he can walk now without his crutch; suffers no pain of any kind; mouth nearly well; appetite good. To remain still in bed.

9. No pain felt on any motion of the joint; a small gland in the groin has enlarged and become painful, within the last day or two. Let two leeches be applied to the right groin.

11. The surface, for about a hand-breadth around the leech-bites, has an erysipelatous blush, and is painful to the touch. Let him take a teaspoonful of the following mixture every hour:—

Tartarised antimony, grs. ij;
Distilled water, ℥iv.

14. The erysipelas has altogether disappeared. Discontinue the solution of tartarised antimony.

18. He has remained in bed since; is quite well, and is able to go about without his crutch.

Dismissed, with the recommendation not to exercise the limb much for at least another fortnight.

One of the early numbers of the "Dublin Medical Press" for the present year, contains a case of morbus coxæ, successfully treated by mercury, upon Dr. O'Beirne's plan, which I communicated to the Surgical Society of Ireland. In the debate which

---

* This case was accompanied by the following note:—

To the Editor of The Lancet.

Sir:—The present communication exhibits an instance (which I believe to be very rare) of morbus coxæ, attacking, in succession, both joints of the same person. It places the new in strong and favourable contrast with the old mode of treating the disease, and it defends me against an unfounded charge. I trust, therefore, that you will give it insertion in your valuable Journal. I have the honour to be, Sir, your obedient humble servant,

James O'Beirne, M.D.,
Surgeon Extraordinary to the Queen, &c.

followed the reading of that paper, an attempt was made not to disprove or to deny the value, the safety, or the utility of the practice, but to detract from the merits of the discoverer, and to deprive Dr. O'Beirne of some of his well-earned laurels, by insinuating that mercury had been exhibited in similar cases by former practitioners. The attempt, however, failed; but if any doubts should still linger in the minds of the profession, as to whom the credit of the discovery really belongs, the following quotation from Dr. Graves's writings is calculated to dispel them. * * In his clinical lectures, delivered at the Meath Hospital, he says:—

"An extensive experience, and deep reflection, first led Dr. O'Beirne to think that the acute stage of scrofulous inflammation of the hip and knee-joint might be made amenable to active and energetic treatment; in other words, that inflammatory affections of the joints which terminate in some of the worst and most fatal forms of disease, namely, *morbus coxæ* and *white swelling*, might be checked, *in limine*, and before the stage of hopeless ulceration was established. He therefore proceeded, boldly, and at once, to try whether the disease might not be arrested in the commencement, by rapid mercurialisation. Observe, this idea was *completely new;* it had never occurred to any other person, and was diametrically opposed to the theories of the day. The prevailing opinion on this subject was, that mercury was inadmissible, and could only produce mischief in persons of the scrofulous diathesis. Every one said, do *not* give mercury in such a case, *it exacerbates scrofula*, it even *brings on scrofula*, in many instances where there had been no appearance of it previously; you can do no good with it, and may do infinite mischief. Dr. O'Beirne, however, knew the difference between the *proper* and the *improper* exhibition of mercury—between mercurialising the patient at once, and fully, and then stopping; and the pernicious custom of giving long and irregular courses of mercury. He tried the remedy and succeeded, and the surgeons of Europe have justly appreciated the value and importance of *his discovery*."

PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

ANNIVERSARY MEETING AT SOUTHAMPTON.—JULY, 1840.

THE following report is a faithful abstract from the very copious account of the proceedings, published on the spot by the "Hampshire Independent," of July 25th. The report occupies six closely-printed columns in the newspaper; but from our abstract there is not omitted a single remark or circumstance that is essential to a correct understanding of the whole contents. The local press has always done ample justice to the proceedings of the Provincial Association in the way of *reporting*.

The eighth anniversary meeting of the Provincial Medical and Surgical Association was held at Southampton last week, at the Audit House. About one hundred members assembled. The proceedings were commenced by an address from

Dr. JEFFREYS, of Liverpool, who said that the position which the Association had assumed in eight years, placed it high in the scale of importance. It is not my province, he observed, to occupy much of your time by details of the last year, still there are some points which I feel bound to notice. The successful impression the Association has made from one extremity of the kingdom to the other, has led me to believe that the reception we shall have by our southern brethren will keep pace with the temperature of their atmosphere; and I venture to hope, that before long we shall also visit the eastern district over which our usefulness extends. Sir Benjamin Brodie told us in his address, at the anniversary meeting of the Medical and Chirurgical Society, held February 5th, 1840 (LANCET, March 7, 1840), that—"Whatever brings a number of men of our profession into friendly intercourse, will excite emulation, exercise intellect, and add to their knowledge; maintain the zeal of the zealous, impart emulation to those previously without it, remove that disgustful feeling so liable to be engendered by professional men, not personally acquainted, give us a better knowledge of ourselves, and teach us humility with respect to our own attainments, and a respect for the opinions of others." These sentiments cannot be too often repeated. Immediately after our separation in Liverpool, the petitions to Parliament upon vaccination were signed by myself, Dr. Baron as chairman, and Dr. W. Conolly as secretary, of that section; and from the manner in which the subject has been taken up, and the invaluable experiments of Mr. Ceely, I think we may claim a conspicuous share in forwarding Jenner's discovery. The report read at Liverpool by Dr. Baron, and afterwards published in a pamphlet, is now translating into German. In August last the petition on the long-looked-for subject of medical reform was sent up to Parliament, and presented in the Lords by the Marquis of Lansdowne, and in the Commons by Lord John Russell. On no topic, perhaps, is there a greater discrepancy of opinion amongst the members of the Association than upon this all-absorbing subject. Each extreme is supported with an earnestness not for me to dilate on. It is, however, only by deliberating calmly on the question that we are likely to arrive at just and profitable conclusions. There are very few practitioners who will not admit that some

reform is loudly called for; the extent of this, however, requires much firmness to carry out, and much legislative experience to adapt to our necessities. A third petition was sent up in May to obtain a separate clause in the bill for taking the next census,—to ascertain that portion of the population which may be inefficient, from sickness or infirmity, distinguishing the sexes, by which means different localities would be marked by the difference and extent of disease, a point of vital importance in a statistical point of view. It appeared to me fitting that an address should be presented to our Queen on her marriage, and that a deputation should lay it before her Majesty. Circumstances would not allow me to collect the sense of all the members thereon; I was, therefore, satisfied by appealing to some of the more experienced; and the Council agreed that Dr. Forbes, of Chichester; Mr. James, of Exeter; Dr. Boisragon, and myself, should form the deputation. Three gentlemen were named for presenting us, viz., Sir Astley Cooper, Sir James Clark, and Lord Sandon. Sir Astley having previously expressed to me by letter the "delight" he should have in doing so, and also, being a honorary member, we considered entitled to the preference; an attack of gout unfortunately prevented his personal attendance. During the last month my attention has been attracted to our district branches—the Newton and the Shropshire. They both increase in numbers and zeal; and I hope that our parent Association will feel their exertions in useful communications, more especially upon medical statistics. I have now to beg you will accept my thanks for the honour you have conferred upon me, and if I have failed in affording satisfaction as president, it has not been for the want of anxiety or zeal in your service. I resign in favour of Dr. Steed, whose attainments, rank, and standing in this locality, secure for us an able advocate to strengthen this most useful, beneficial, indefatigable, and singularly-successful Association. Dr. Jeffreys then resigned the chair to

Dr. STEED, of Southampton, the president elect, who said,

Gentlemen,—My situation may be compared to a man who has lived in the shade all his life, and is brought at once to face the sun. I feel sincerely the honour conferred on me. I beg to welcome your arrival in Southampton. The Society has now acquired a celebrity that renders eulogium from me superfluous. As compared with the large towns in which your meetings have been held, we have slender claims on your attention, but we are progressing towards opulence and renown. The railroad has opened an intercourse exceeding all calculation, and, with the completion of the docks, we may anticipate becoming the great commercial depôt of this portion of the empire. [The President here alluded to some historical facts connected with Southampton, which we omit.] The situation of this town is beautiful. The Southampton Water banks are wooded to the edge, and abound with the residences of our aristocracy; and water excursions and delightful drives, sheltered by hills, render this a place of considerable resort for valetudinarians. Our fraternity at present number little short of thirty legally-qualified practitioners, and the population is about 30,000, giving an increase of one-third in the last twelve years. We have an hospital, got up within these three years, yearly increasing in size, and now happily lightening the sufferings of humanity, and affording the surgical corps a large field of operation and practice. We have had for many years a dispensary, from which I am not aware of any information to be derived beyond the mention of the patients being 1200 per year. No faithful register has been kept of the nature of the complaints treated. One important circumstance, however, I, from fifteen years' residence, am able to vouch for; namely, the total abstinence of endemical disease, fevers being almost unknown to us, those of the intermittent kind in particular, while the continued form are so rare, that their presence makes the exception more than the rule. I say thus much in consequence of an erroneous opinion having prevailed amongst certain individuals, that a large exposure of earth on the receding of the tide ought to be, and therefore is, injurious to the inhabitants. We have a Philosophical Society and a Mechanics' Institution, well patronised and attended. I do not feel disposed to encroach much on that all-absorbing subject, "Medical Reform," since it will come before you in a specific shape; and this very meeting, I believe, will give the cue to a new legislative enactment on the subject, and the almost perfect unanimity that prevails renders success inevitable. It is not possible to resist the demand on Parliament, grounded as that demand is on necessities that involve the best interests of the community. The want of legal protection to regular practitioners, and a vast addition to their numbers, have deteriorated the science of medicine in the public estimation in an inverse ratio to its *bonâ fide* claims, the art itself having progressed to a great extent. It is notorious that any man can add "doctor" or "surgeon" to his name with impunity. And scarcely less objectionable is the difference that exists in the modes of acquiring medical degrees. Many purchase; some have their honours thrust upon them; every possible corner of the globe has been ransacked for them, without one hour's study within the walls of a university, and without expense and anxiety in regard to education. Of all this juggling the public are in profound ignorance. Look at the working of the sys-

tem. It is painful to contemplate the heart-burnings and jealousies that this competition begets, in which the chief advantage is on the side of pretension and incompetency. Another evil is, that of "farming out the poor," "letting them out to tender," without regard to the qualifications of the individuals to whose charge they are entrusted. How a Government can permit such a traffic is inconceivable, in a matter of life and death. My anxiety is, first, to reform ourselves, and obtain protection to exercise our calling on well-authenticated qualifications, but which I never expect to see realised until the grievances alluded to are redressed, and the trade of physic is separated from the practice of it. I am afraid the appointments which her Majesty has been advised to make, of a *Physician*-Accoucheur and a *Surgeon*-Accoucheur, are not calculated to lessen the perplexities of the medical faculty. I disavow any personality. I am aware of the impossibility of discussing matters in an assembly of this sort, without some individual fancying an application. These are merely my opinions, which I am ready to retract when convinced that they are wrong. Against measures, and not men, I raise my voice. I cannot occupy your valuable time beyond a few observations more. I beg to assure you of my zeal in your cause. I crave mercy at the hands of those methodical, old-fashioned critics who weigh merits by comparisons. Highly-gifted individuals have preceded me in the chair, and I propose to follow in their steps as nearly as I can. Lastly, I cannot deny myself the pleasure of congratulating you on a legislative enactment having passed both houses of Parliament for the prevention of inoculation. It is fraught with importance, both as regards the individual interest, and as holding out a hope that our zeal for the public welfare is at last recognised in the proper quarter; and we may now fairly expect, with but moderate exertion and perseverance, to enjoy the full brilliance of a meridian sun in the consummation of our ardent wishes.

Addresses to the Queen, Prince Albert, and the Duchess of Kent, on the escape of her Majesty from the murderous attempt of a maniac, were moved by Dr. Jeffreys, and carried by acclamation.

Dr. Hastings read the report of the Council.

The Council congratulated the members on the uninterrupted prosperity of the Association. No former years had more conspicuously shown the advantages that result from the combined operations of the members than the present. The eighth volume of "Transactions" (the reporters observe) does not contain communications on so great a variety of subjects as those previously published; but the information it contains on vaccination will ensure for it frequent perusal. The experimental essay by Mr. Ceely, contains triumphant confirmation of the identity of small-pox and cow-pox. The appointment of the Vaccination Section, two years ago, seems to have been a principal stimulus in encouraging Mr. Ceely in his inquiry. These experiments are illustrated by first-rate artists, at an expense of £700. The number of members now on the books is 1220. A branch of the Association has been formed at Bristol. The income for the present year amounts to.... £1508 10 9

The expenditure to..... 1283 5 7

Balance £225 5 2

The report recently made to the Secretary of State by the Poor-Law Commissioners evinces a disposition to remedy some of the more striking evils of their system.—As the Marquis of Lansdowne had distinguished himself when the second Parliamentary grant was voted to Dr. Jenner, the Council wished that his lordship should bring forward a bill to restrain small-pox inoculation, and diffuse vaccination, in conformity with the prayer of the petition. Other duties rendered it impossible, but at his suggestion the petition was read to the house. The result was a motion of Lord Ellenborough for a Bill to promote Vaccine Inoculation, but leaving small-pox untouched. This was in part removed by a clause proposed by the Marquis of Normanby to restrain the latter practice. The efforts of the Association have been so far successful. However, Lord Ellenborough's clause tends to throw the whole practice of vaccine inoculation among the poor into the hands of the Poor-Law Commissioners and Guardians. The Council sent remonstrances, requesting an enactment might be framed more in accordance with the petition; but the bill had passed without these desirable alterations. The Council are happy, however, to state, that a clause has been introduced which makes it a misdemeanour to inoculate for small-pox; and thus the law is carried to an extent even beyond what they had dared to hope for. There will be many thousand lives saved annually by this measure.—The Benevolent Committee Fund is not supported.—Medical reform has been much advocated since the last meeting in all parts of the kingdom. It was generally understood that Mr. Warburton would arouse from his inactivity of late, and not allow the session to pass without bringing his views before the House of Commons.—Quackery is so intimately connected with the want of organisation of the medical profession, that the Council do not consider that any means will restrain the former until the latter is improved.—Medical topography will speedily be undertaken by members residing in different parts of the kingdom.—The address to the Queen, on her marriage, has been presented.

Dr. Macartney, of Dublin, moved the

adoption of the report. Immense advantages had been gained by the Act for the Prevention of the Small-Pox by Inoculation. He thought this Society had been the means of effecting so glorious an object.

Dr. Le Fevre, physician to the Embassy at St. Petersburgh, seconded the resolution. Thirty years ago he left Southampton to commence his medical education, and he had been in Russia twenty years. In returning to this town, he knew not how it was in England, but on the Continent public confidence in the profession had rather decreased during the last twenty years, not by any decreased intelligence in the public, for they never ran after new ideas and opinions more than at the present. Where, then, were they to look for the cause? He was afraid the Catalines existed amongst their own body. Members of the profession would stoop, for emolument or temporary fame, to become the advocates of animal magnetism or homœopathy. Whenever those bubbles burst, they would certainly involve those who blew them in their own annihilation. With regard to medical reform, he was gratified at what he had heard that day, living as *he* did in a country where public opinion found no public expression. He should return to his exile under the harmonious feelings produced by this day's proceedings, and which fully answered the object of his long voyage.—(Cheers.)

Dr. Webster, of Dulwich, suggested an amendment to the report. No notice was taken in it of Mr. Wakley, to whom they were indebted for the clauses making inoculation for small-pox a misdemeanour.

Dr. Hastings explained that Mr. Wakley's bill having been lost, his name was omitted from the report.

Some further conversation ensued, followed by a motion by Sir James Murray for a vote of thanks to Mr. Wakley for his exertions on this point.

The motion was seconded by Dr. Streeten, of Worcester.

Dr. Quarrier, cordially concurred in the proposition, which was put and carried unanimously, the report having been previously agreed to.

Thanks were given to Dr. Jeffreys, the retiring president; and he was appointed a vice-president.

Dr. Streeten proposed the thanks of the meeting to the secretaries, Dr. Hastings and Mr. Sheppard, and that they be requested to continue their services another year. No person, without seeing it, could be aware of the immense mass of business falling on the secretaries, or the regularity with which it was discharged.—Carried unanimously.

Mr. Salter, of Poole, moved the thanks of the meeting to the Council for the past year, and that they continue their services, with additional members.—Passed unanimously.

Dr. Forbes reported that the prize of £50, placed at their disposal by Dr. Thackeray, of Chester, and which had been offered for the best essay on the Causes of the Continuance of Fever in England, was awarded to the writer of the essay numbered 7, bearing the motto, "*Grave virus munditias populit.*" The judges were himself, Dr. Conolly of Bath, and Dr. Jeffreys. Of eight essays sent in, No. 4 was the best next to No. 7. The paper containing the name of the author was broken, and found to be that of Mr. W. Davison, of the Glasgow Infirmary, Lecturer on Materia Medica. (Much applause.) The three judges had been unanimous with regard to the successful essay.

Dr. Webster, of Dulwich, read the report of the Poor-Law Medical Relief Committee, and clauses proposed to be added to any measure introduced by Government, upon which he made comments. He moved that the report be printed, that thanks be given to the Committee for the energy manifested by them on this subject, and that they still watch the proceedings of Parliament. That the Association approve of the clauses which Mr. Talfourd proposes to bring forward when the bill for the amendment of the Poor-Law is under discussion, and recommend the members generally to petition.

Seconded by Dr. Maunsell, and carried.

Dr. Home then moved that thanks be given to Mr. Talfourd, for his endeavours to amend the present system.—Carried unanimously.

The Vaccine Section was re-appointed till the next anniversary.

Dr. Dodd, of Chichester, proposed that circulars should be sent to the schools, pressing the desirability of requiring a certificate of vaccination from each pupil, previous to being admitted.

Dr. Forbes seconded the motion.—Carried unanimously.

Dr. Hastings announced that as there were present deputations from the British, the North of England, and the Irish Medical Associations, each of those gentlemen should, after hearing the report on medical reform, express his views on the subject.

Dr. Baklow then read the report:—The Committee, from the time of presenting their last report, have been observing the course of events, rather than projecting ameliorations. The petitions voted at the last meeting were presented to Parliament. Subsequently, appeals to an extent unexampled in the profession have been made on behalf of medical reform. This fact will be deemed incontrovertible evidence of the extent to which the want of reform is felt. Your Committee still deem the qualification of the practitioner, and the consolidation of the profession, the main requisites for an adequate organisation of the collective body for the purposes of self-government. Your Committee make this their sole aim. To

intermix the subjects of qualification and government, and to seek to comprise both in one legislative act, appear to your Committee unwise. Qualification, and the necessity of rendering it uniform, are simple subjects, readily comprehended, and on which but little difference of opinion can exist. Adequate government must be provided as well as qualification; but they would seek these ends consecutively, instead of attempting to embrace both in one ordinance. Any comprehensive re-organisation of the profession must disturb the several institutions which have hitherto presided over it. Those will be disinclined to changes which would divest them of privileges long enjoyed. That their alleged claims should obstruct a measure of national utility, few will openly contend. Yet, consideration, consistently with the principles of reform, should be extended to them. With all their defects they have each had merits, and a large portion of the profession is comprised in those institutions; and in establishing the future government of the profession, an opportunity would be afforded for assigning them, without injury to the main design, that place which they might gracefully and beneficially occupy in the improved system. Qualification being legally established, a general incorporation would be requisite for internal regulation and self-government. This national medical institution might be constituted, at first, by the amalgamation of the several colleges that now exist, the institution being afterwards open for the admission of all who should possess the qualification ordained by law. From the collective commonalty, a safe constituency might be created, by limiting the elective franchise to those who had been qualified for practice a certain number of years. But the fundamental measure of legal qualification is the object first in importance. How far the Association may be again required to raise its voice in furtherance of that end, it is impossible to foresee, for until the nature of Mr. Warburton's bill is ascertained, further appeals from this Association must be useless. Under these circumstances it would be advisable that the Central Council should be authorised to act for the general members within the ensuing year, promptly, either alone, or in conjunction with other associations, for purposes which could not await the Association's annual congregation. The only resolution, therefore, that your Committee at present propose, is, that the Council be empowered to do so.

Mr. CARMICHAEL, of Dublin, then moved thanks to the Committee for their able report now read, and that they continue their services. It would be desirable to have a system of self-government, the constituency to be the members of all colleges, of a certain standing.

Dr. QUARRIER seconded the motion.

Mr. CARTER, of Newcastle, spoke at some length in favour of the representative system of Government.—Carried.

Dr. WEBSTER, from the British Medical Association, thought a resolution going a step beyond the report should be agreed to. The representative principle had been advocated by all associations excepting this one, and he was happy to tell them, that 130 petitions, with 4321 signatures, had been presented to Parliament in favour of this principle. With respect to Mr. Warburton's motion, he thought that if a gentleman of Mr. Warburton's influence had been disposed to bring this question forward, a house might have been constituted. He recommended the Council to ascertain what Mr. Warburton's views were, and if he did not intend to support the representative principle, to get some other gentleman who would introduce the measure into Parliament. He would move a resolution, "That steps should be taken to obtain medical reform on the principles of a uniform test of qualification and a representative system of government."

Dr. BARLOW said he would second the resolution, to show what his feelings were on the question.—(Cheers.)

The motion was carried, and the meeting adjourned till eight o'clock.

On the re-assembling of the Association,

Mr. DODD, of Chichester, read the retrospective address on the progress of surgery; it extended to a great length. The meeting, on the conclusion of the address, was loud in its applause, and thanks were given to Mr. Dodd for his report.

The report on quackery was read by Dr. COWAN, of Reading. The Committee to be continued till the next anniversary at the city of York, where Dr. Gold is to be the president.

Some discussion took place on suspending a surgical address till the year after next, in consequence of the expense of its publication to the Association. A motion made by Dr. Newnham, for an address next year, was, after an explanation from Dr. Hastings, withdrawn.

On Thursday the "public breakfast" was served at the Victoria Rooms. About eighty gentlemen sat down.

A retrospective address on medicine was read by Dr. Scott, of Liverpool. There seems (he said, in concluding it,) to be a brighter day dawning upon our profession. We are more united and more important in the state. There is, humanly speaking, no profession more important. Why, then, should we not be of more importance as a public body? Why not consulted in all matters regarding the general health of the nation? Why remain without any representatives, even in the subdivisions of public authority? In other professions, emoluments are afforded to enable individuals to apply them-

selves to abstract study. Where can we find this encouragement in our own? Why should there not be offices of a public nature to be occupied by members of the profession? When it is asked, what are the advantages of our Association, I point, amongst minor things, to this sacred union, and to the last volume of our "Transactions." When I see these advantages—when I look to the still greater ones which we are likely to obtain—when I find myself, an obscure individual, brought by its instrumentality amongst the most distinguished of our brethren—and when I feel that we are associated for the general interests of science, I cannot but say,

"Irrupta, nos teneat copula, nec
Suprema citius, solvendus amor die."

—(Great applause.)

Thanks given to Dr. Scott, for his address.

Dr. BARLOW read the report of the benevolent fund. The Committee had rejected many cases, from want of funds. At the last anniversary £40. 11s. 6d. was due to the donation fund, which the Committee hoped by increased subscriptions to pay during the year. That had not been the case. Under these circumstances, the Committee had resolved to grant no more assistance until the debt was discharged, and £100 remained in the treasurer's hands. If each member of the Association would subscribe 5s. annually to the fund, much good might be done.

Some discussion took place relative to the best means of obtaining support to the fund. Dr. Cowan proposed making it compulsory on every member to subscribe 5s. annually towards its support, and gave notice that he should bring forward the motion at the next meeting.

Several cases and papers were read.

A vote of thanks to P. Breton, Esq., the mayor, for the accommodation he had afforded the Association, was carried.

After a vote of thanks to the president, Dr. Steed, the meeting adjourned.

THE DINNER.

At six o'clock, about 120 gentlemen assembled at the Victoria Assembly Rooms, to a banquet. Mr. F. Targett's quadrille band played throughout the evening, at intervals. The chair was taken by Dr. Steed, supported by the Mayor and Dr. Jeffreys. On the removal of the cloth, the Chairman called on different gentlemen to propose the toasts. "The Queen," "Prince Albert," the "Queen Dowager," the "rest of the Royal Family," the "Mayor of Southampton," "Dr. Jeffreys," the "Vice-Presidents," the "Honorary Members," the "Rev. J. E. Shadwell," the "President and Members of the Association," the "Irish Delegates, Sir James Murray, Mr. Carmichael, and Dr. Maunsell," the "Deputy from Newcastle, Mr. Carter," "the Universities," "Dr. Hastings," "the Benevolent Branch of the Institution," "Mr. Dodd and Dr. Scott, the authors of retrospective addresses," "Dr. Thackeray," the "Mayor of Winchester," and the "Metropolitan Visitors,"—these were the toasts drunk, and the company separated at a late hour.

SIR RICHARD DOBSON'S REPLY

TO THE OLD "MAN-OF-WAR'S MAN."

To the Editor of THE LANCET.

SIR:—In the last week's LANCET, a correspondent, who signs himself "An Old Man-of-War's Man," states his fears that you have, while advocating a sound principle, bestowed unmerited praise on me for denouncing, in my evidence before the Naval and Military Commission, the exclusiveness adopted by "Dubs and Pures." Now, Sir, in no part of that evidence can he find that I either mentioned or made allusion to such persons as "Dubs or Pures." Neither did I make any reference whatever to the division of medical and surgical duties in private practice; with these I had nothing to do, and, consequently, your correspondent's implied censure on that head is itself unmerited. My object was to benefit her Majesty's naval service, and the medical officers thereto belonging, by recommending that the title of "physician in the navy" should be abolished, as it has been in the army; because that title justified the officer holding it in refusing surgical assistance in any case whatever,—even the use of a lancet in apoplexy, a ligature in hæmorrhage, or a catheter to prevent a man's bladder from being ruptured.

In my examination before the Commission, I fearlessly and honestly answered every question they were pleased to ask me; and as a proof that the title of "physician" should not be retained in the service, I adduced the strong case that had occurred at Haslar Hospital; but without meaning either the slightest disrespect to Sir Isaac Wilson, or any reflection on his professional character. Sir Isaac, under his title of "physician," had a right to refuse to bleed; but feeling that it was absurd and injurious for such a right to exist, I tried to have that class of officer done away with in the service, without prejudice to the officers themselves; and I rejoice, for the sake of that service, that the abolition has been recommended by the Commission. Would any officer, if he were serving, or were placed, in Haslar, or in any other hospital, and were seized, as was Admiral Garrett, with symptoms of apoplexy, say that there ought to be any medical officer in that establishment, or in the service, whose title should justify him in refusing to perform immediate bleeding, when it was impera-

tively demanded by the symptoms, and upon which operation the patient's life might depend?

My evidence is published, and I entertain a conviction that when it has been generally read by the medical officers of the service, its truth and beneficial intention will not fail to be understood. They will see, that though the class of physician is done away, the officers who hold that rank are not injured; while the service and the surgeons are both benefited; and it is not all the insinuations your disappointed "Old Man-of-War's Man" can whisper or circulate, that will cause me ever to regret one word of that evidence. He himself acknowledges, that the title of physician was from the first a misnomer; and yet, from some selfish or jealous motive, best known to himself, he insidiously attacks me for having caused its abrogation. But it may be some consolation to himself, as well as to me, to think, that so far from taking from the naval surgeon the only step of promotion he had to hope for, the promotions by the new arrangement are likely to be much increased; and instead of only two promotions in twenty-six years, as was the case, there may probably be twenty-six medical officers in two years advanced to rank above that of surgeon, without any part of their usefulness being curtailed! and thus may justice be done to merit without injustice to the service, and promotion be extended free from disqualification!

That officers with the title of physician are not necessary for the service, may be inferred, by there being none at Chatham, Woolwich, Bermuda, Jamaica, or Malta, yet the medical and surgical duties are as well performed at those hospitals as if there were a physician to each; and I am happy to think that the surgeons of those and other establishments, who have been all along performing arduous and responsible duties, are now likely to get a step of promotion, which they well merit, but which they never could have obtained so long as the service was clogged with the oppressive title of physician. And I take the liberty of differing from your correspondent, when he says, "That granting the change be made in the title the same men must be nominated, and the duties must be the same as now; and it is just possible, that the surgeon may be too old to operate, in some cases, like the physician of Haslar." But whoever may be nominated, I beg to tell the author that when the new appointments are made out, any man refusing to bleed in such cases as that of Admiral Garrett's, will do so at his peril, as it will then be his duty, in which if he fail, neither age nor title will protect him from loss of situation.

I feel much obliged to the "Old Man-of-War's Man," for giving me this opportunity of expressing my gratification, "that in one instance only has the surgeon of any hospital been suspected of his having avoided his duty;" and I think I shall be able to administer the antidote to the poison insidiously contained in your correspondent's inquiry, when he (tauntingly) asks, "Why an assistant-surgeon of this hospital had his arm amputated at the shoulder-joint by Mr. Liston, and why Mr. Liston, and not 'the first surgeon of the first hospital in the world,' performed the operation?" That case occurred thus:—Mr. Watt, the assistant-surgeon alluded to, most unfortunately concealed an osteo-sarcoma of his right arm for a great number of years, and would not then have disclosed the disease, had I not by chance detected it while attending him for another illness. Upon my discovering it, I strongly expressed both my surprise and displeasure at the concealment he had been guilty of; for I saw at once such was the state of his arm, that nothing but amputation at the shoulder-joint could save his life, and I expressed my doubts if he had not even then concealed the disease too long for the operation to be successful. Mr. and Mrs. Watt both came from Scotland, where they had known that justly celebrated surgeon Mr. Liston, and not liking to lose his arm they consulted him, who concurred with me in opinion that nothing but immediate amputation at the joint gave Mr. Watt any chance of recovery. Soon after this Mrs. Watt surprised me, by asking if I had any objection to her husband going into the North London Hospital to have his arm amputated. I refused to comply with her request, telling her that it was my duty to perform it, and that it should be done in this hospital; but upon her urging with tears, that she particularly wished Mr. Liston to do it, and considering that both she and her poor husband might feel sore at the displeasure I had expressed from his having concealed his disease, as well as my doubts whether an operation would be attended with favourable results (which proved but too well founded, though no operation was ever better performed). I, therefore, went to the Admiralty, and stated the urgent desire of Mr. and Mrs. Watt for Mr. Liston to take off the arm, where I was told that I should be wrong in refusing them to have any person they preferred. Under these circumstances I permitted Mr. Liston to come here and perform the operation, without having avoided any part of my duty, which I trust will satisfy your numerous readers, that the insinuations contained in the letter of an "Old Man-of-War's Man" (who is ashamed of publishing his name) are both despicable and unfounded. I am, Sir, your most obedient servant,

R. Dobson.

Greenwich Hospital, July 20, 1840.

*** We do not think that our anonymous correspondent, who is a very respectable M.D., is "ashamed to give his name;" but we must mention, to save him trouble, that Sir Richard Dobson must not be replied to anonymously. Indeed, we do not think that the subject need be farther discussed.

MR. HARDY ON THE "CIRCUMSTANCES WHICH MAY JUSTIFY INOCULATION FOR SMALL POX."

To the Editor of THE LANCET.

SIR:—The Number of THE LANCET, containing your comments upon the report of the Newton Branch of the Provincial Association, did not reach me till the afternoon of the 23rd instant, and I avail myself of the earliest opportunity of replying to them.

On comparing the paragraph you have cited from the "Manchester Courier" with the original, I find it in every respect correct; and, what is more, the report itself, having been first sanctioned by the council, and, subsequently, adopted at a general meeting of members, even after their especial attention had been directed by the president to this paragraph in particular, it is presumed that I have therein accurately represented the *previously expressed* opinions of the council, as well as those of the Association at large. The nature of my office imposes upon me the duty of thus faithfully recording the views of those with whom I have the honour to be associated, but it does not necessarily render me responsible for them, nor oblige me to explain the grounds on which they may have been founded, to every one who may choose to question their propriety.

On the present occasion, however, I by no means feel inclined tacitly to admit, that "the statements contained in the 'Manchester Courier' would argue such a very poor understanding of the chief question relating to those measures"—the two Vaccination Bills,—as you would have your readers to "take for granted." Instead of "an incomprehensible notion of the fitness of things," I can only discover a very comprehensible perversion of the "meaning of words," in those comments which would lead one to suppose that the Association with which I have the honour to be connected, considers "the proposal to prevent the instilment of a poison" to be "despotic." If by "chief question" is meant the principle on which these measures are founded, it was never intended by the council to discuss the merits of that in the report, but merely to point out the "main features," or relative merits, of their respective provisions or clauses; and it cannot be denied that those have been fairly stated. With regard to the practice of inoculation, the feeling of the council is expressed in language sufficiently intelligible to *all who have a desire* to comprehend what they read. "Any measure which sanctions the practice of inoculation, either *directly or indirectly*, they (the council) conceive to be dangerous to the public health;" but who can say that our present knowledge of the nature of small-pox is so perfect and complete, or that our information respecting the protective power of vaccination is so accurate and conclusive, as that no after circumstances can possibly arise, which may render it needful for us to resort to inoculation for the purposes of scientific investigation?

No wonder, therefore, that a body of men, conspicuous for their high professional attainments, should so far remonstrate against the total prohibition enjoined by your penal clause, as to declare that "any law, which consigns a medical practitioner to prison for an act which circumstances *may* require him to perform, is too arbitrary and despotic for the enlightened age in which we live."

From these remarks, you will readily ascertain the "circumstances" which you wished me to "take the trouble to announce." I know of *none other* which would ever induce *me* to practice inoculation for the small-pox; and with deference I would submit, that they are sufficiently important to have had some modifying influence in the framing of the penal clause of your otherwise excellent and salutary measure, before it was made so very indiscriminate in its application. It need not be concealed, however, that there are *other circumstances* which many conscientious, intelligent, and honourable-minded men deem imperative enough to *justify*, if they do not absolutely *require*, the practice of inoculation; and who would not hesitate to comply with the request of unfortunate parents, without fearing the charge of being guilty of the "instilment of a poison." The deeply-rooted prejudice against vaccination, which, unfortunately, prevails amongst the highest, as well as the lowest, classes of society, will necessarily occasion some apprehension that inoculation may still be resorted to by foolish parents, under very dangerous circumstances; and there are some, I know, who believe that, *in the absence of a law which shall make vaccination compulsory* UPON ALL, *it may at times be found more conducive to public safety to* INOCULATE, *under certain judicious restrictions, than to permit hundreds and thousands of children, who have never been vaccinated, to roam about as so many probable sources of contagion (in its worst forms) to those who* HAVE *been, as well as to one another.*

How far these opinions may be based on sound policy, your readers will be as competent to form a correct judgment as myself; and I must now conclude, by requesting the favour of your insertion of these remarks in

the next Number of THE LANCET. I am, Sir, yours respectfully,

G. W. HARDY.

Warrington, July 25, 1840.

*** The wish of Mr. Hardy is willingly granted. One of the two chief points in his reply is contained in the question with which the third paragraph is closed. Questions, Mr. Hardy, will permit us to say, form dangerous portions of argumentative remarks; dangerous to the querist; for they are only substitutes for, and indicate a difficulty to supply, *facts*. The second chief point we have made more conspicuous by *italics*, that the *single* "*circumstance*" which Mr. Hardy has found to oppose to the legislative *veto* against inoculation for small-pox, may be readily seized in estimating the weight of his answers to this simple inquiry,—What circumstances will any longer justify permission being given to twenty thousand medical practitioners to decide, according to their judgment or their temptations, whether they shall or not keep up the practice of inoculating with the virus of small-pox? We should with ease and cheerfulness dispose of his fallacy, were it not quite safe to leave the task to each reader who may reflect upon it. The council and members of the Newton Branch of the Provincial Association, will, on perusing our report of the Southampton meeting, find an opposite opinion to their own on this subject, *unanimously* expressed at the anniversary assembly of the parent society. The argument of Mr. Hardy was powerful before the discovery of Jenner. The remaining *prejudices* against vaccination will not last; but inoculation could not be suffered to continue until they had worn away. Indeed, inoculation nursed those prejudices.

ROYAL COLLEGE OF SURGEONS IN LONDON.

JACKSONIAN PRIZE OF TWENTY GUINEAS.

The Prize-Subject for the Year 1841 *is, Injuries of the Thorax, and Operations on its Parietes.*

CANDIDATES to be members of the College, not of the Council. The dissertations to be in English; and the number and importance of *original facts* will be considered principal points of excellence. Recited cases to be placed in an Appendix.

Each dissertation to be distinguished by a motto or device; and accompanied by a sealed paper, containing the name and address of the author, and having, on the outside, a motto or device corresponding with that on the dissertation.

The dissertations to be addressed to the secretary, and delivered at the College before Christmas-day, 1841.

The manuscript prize-dissertation, and every accompanying drawing and preparation, will become the property of the College.

Those dissertations which shall not be approved, with their accompanying drawings and preparations, and correspondent sealed papers, will be returned upon authenticated application within the period of three years; and those manuscripts which shall remain three years unclaimed, and every accompanying drawing and preparation, will become the property of the College; at which period their accompanying papers, containing the names of the respective authors, will be burned, unopened.

There are two prize-subjects for the present year, 1840, viz.:—*Nævi and other Erectile Tumours,—their Structure and Treatment; and Hæmorrhage, spontaneous and accidental,—the Nature and Treatment.*

The dissertations upon which must be delivered at the College before Christmas-day next.

COLLEGIAL TRIENNIAL PRIZE OF FIFTY GUINEAS.

The subject for this prize is—*The Structure and Functions of the Lungs.*

Candidates to be members of the College, not of the Council. The dissertations to be in English, and to be distinguished by a motto or device, accompanied by a sealed paper, containing the name and residence of the author, and having, on the outside, a motto or device corresponding with that on the dissertation.

The dissertations to be addressed to the secretary, and delivered at the College before Christmas-day, 1842.

The manuscript prize-essay, with every accompanying drawing and preparation, will become the property of the College: the other dissertations, and their corresponding sealed papers, will be returned upon authenticated application within the period of three years; after which period the papers containing the names of the respective authors will be burned, unopened, and the manuscripts will become the property of the college.

EDMUND BELFOUR, Secretary.

July 15, 1840.